RELATIONSHIP BETWEEN CULTURAL COMPETENCY AND QUALITY INDICATORS IN HOSPITALS

by
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Abstract

Dramatic changes in the diversity of the U.S. population pose potential quality issues—such as reduced quality of care, worsening patient outcomes, increased risk of litigation, missed opportunities for screening because of lack of familiarity with the prevalence of conditions among certain minority groups, and diagnostic errors resulting from miscommunication.[1,2,9,10] Lack of organizational cultural competency is thought to be one of the potential root causes for the disparities in care.

Published literature was reviewed to synthesize the findings to date for addressing the effects of cultural competency training on patient outcomes. A total of six studies were selected that met the inclusion criteria. Of the six studies, one demonstrated a specific improvement in a patient-related health outcome (decrease in HbA1c levels). Three found improvement in patient satisfaction with the provider, and two of the studies found improvement in the provider's view of cultural competency. One study found that physician training had a limited impact on patient-reported and disease-specific outcomes. The second manuscript explored determinants of cultural competence performance among hospitals. Hospitals having high cultural competency scores are likely to be located in the northeast region of the United States, be teaching hospitals, have more than 500 beds, be Joint Commission accredited, and/or be rural referral centers. Lastly, the relationship between hospital cultural competency and patient satisfaction was examined. Collecting information on race/ethnicity and patients' primary languages was positively statistically correlated with the majority of the patient satisfaction domains. Even after controlling for hospital characteristics that were correlated with cultural competency, all satisfaction domains are positively associated with collecting information on race/ethnicity and primary language.

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PREFACE

I developed an interest in health disparities and a passion for eliminating them during my undergraduate studies at Yale University. I specifically came to Johns Hopkins Hospital because of its mission to "improve human health and provide medical leadership to the world," which was underscored by its unique location in impoverished East Baltimore. Johns Hopkins Hospital is recognized as one of the best hospitals in the United States, yet the residents of Baltimore have some of the worst health outcomes in the nation. Baltimore seemed to be the perfect place to study disparities in health care.

Such disparities are typically tackled through the lens of health policy and public health interventions; however, hospital management has a direct effect on the distribution of resources and the availability of quality care for disadvantaged populations. Leadership, organizational management, and hospital operations are crucial forces for addressing inequity. Dramatic increases in the diversity of the U.S. population present significant challenges to the health care industry; valuing diversity from executive, patient, and staff perspectives will be essential to meeting these challenges. This is the reason that I decided to get my DrPH at Johns Hopkins Bloomberg School of Public Health, and I am blessed to have had the opportunity to contribute to the intersection of the fields of health disparities and cultural competency.

I want to thank my parents and my friends who have supported me endlessly on this journey. I want to thank the amazing faculty, my chair, and my exam committee for their constant encouragement and support.

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CHAPTER 1: INTRODUCTION

I. Background

The need for culturally competent health care in the United States is great. Major demographic shifts are changing the landscape of the U.S. population. In 1950, U.S.-born non-Hispanic whites comprised about 90% of the U.S. population. As of the 2010 Census, the percentage of non-Hispanic whites had decreased to about 69%; the District of Columbia and four states (California, Texas, New Mexico, and Hawaii) already had "majority-minority" populations. Seven additional states have more than 40% minority residents. The racial and ethnic mix of the U.S. population continues to shift toward increasing proportions of Hispanics and Asians. The U.S. Census Bureau projects that by the middle of the twenty-first century, non-Hispanic whites will comprise a numerical minority of the U.S. population.

Racial and ethnic minorities are burdened with higher rates of disease, disability, and death than non-minorities. They tend to receive a lower quality of health care even when access-related factors, such as insurance status and income, are taken into account. African Americans, Hispanic Americans, American Indians, Asian Americans, and Native Hawaiians/Other Pacific Islanders, who represent 25% of the U.S. population, continue to experience significant health disparities, including relatively short life expectancies and high rates of diabetes, cancer, heart disease, stroke, substance abuse, infant mortality, and low birth weight. In 2014, the number of deaths per 100,000 were 725.4 for whites compared to 849.3 for blacks. The diabetes death rate is 19.4 per 100,000 for whites, compared to 38.4 for blacks. The number of heart disease deaths per 100,000 people in 2014 were 165.9 for whites compared to 206.3 for blacks.[1] These are just a few examples of the health disparities that exist in the United States.

A large body of literature has documented significant racial and ethnic disparities in health care and health outcomes, with minority Americans generally receiving less health care and suffering worse health outcomes.[2,3,7,8] The fact, however, that some groups die sooner or experience a disease more severely than others is a necessary yet insufficient condition to establish a disparity. For example, the fact that young people are healthier than the elderly is not an unfair difference. A disparity exists when the difference is inequitable and unjust.[4]

Race and ethnicity are not the only areas in which diversity is increasing. More than 54 million U.S. residents (19.7%) speak a language other than English at home. The number of people aged five years or older who speak a language other than English at home has more than doubled in the past three decades. Between 2000 and 2010, fifteen states experienced a greater than 100% increase in the number of residents with limited English proficiency (those speaking English less than "very well"). In nine states, more than 10% of the overall population is categorized as "limited English proficient."[5]

Religious/spiritual diversity also has been increasing. According to an analysis of the General Social Survey[6], the percentage of Americans reporting affiliation with a non-Judeo-Christian religion has increased from 1.7% in 1972 to 7.9% in 2010. The percentage of Protestants has declined from 63.9% to 47.7% over the same time period. Moreover, a 2012 Gallup survey[7] estimated the percentage of U.S.-based LGBT (lesbian, gay, bisexual and transgender) persons at 3.4%. Thirteen states have approved same-sex marriage, and the General Social Survey has found a dramatic increase in acceptance of same-sex marriage. While 10.7% of the people surveyed either agreed or strongly agreed in 1988, 45.9% supported it in 2010.[8]

These dramatic changes in the diversity of the U.S. population pose potential quality issues—such as reduced quality of care, worsening patient outcomes, increased risk of litigation,

missed opportunities for screening because of lack of familiarity with the prevalence of conditions among certain minority groups, and diagnostic errors resulting from miscommunication.[1,2,9,10] The 2002 influential Institute of Medicine (IOM) report, *Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care*, identified over 175 studies documenting racial/ethnic disparities in the diagnosis and treatment of various conditions, even when analyses were controlled for various confounders including socioeconomic status, insurance status, stage of disease, comorbidity, and age.[11]

The IOM outlined six aims to foster innovation and improve the delivery of care. One of these aims is equitable, which requires that health care not vary in quality because of personal characteristics such as gender, ethnicity, geographic location, or socioeconomic status. Recent studies have shown that despite improvements in the overall health of the United States population, racial and ethnic minorities continue to experience a lower quality of health services, are less likely to receive routine medical procedures, and have higher rates of morbidity and mortality than non-minorities.[12] Potential root causes for the disparities in care are numerous, with lack of organizational cultural competency being one of them.[13]

Cultural competency is "a set of congruent behaviors, attitudes, and policies that come together in a system, agency, or amongst professionals" that enables effective work in cross-cultural situations."[14] "'Culture' refers to integrated patterns of human behavior that include the language, thoughts, communications, actions, customs, beliefs, values, and institutions of racial, ethnic, religious, or social groups. 'Competence' implies having the capacity to function effectively as an individual and an organization within the context of the cultural beliefs, behaviors, and needs presented by consumers and their communities."[15] A "culturally competent" health care system "incorporates... the importance of culture, the assessment of

cross-cultural relations, vigilance towards the dynamics that result from cultural differences, the expansion of cultural knowledge, and the adaptation of services to meet culturally unique needs."[16] In addition, a culturally competent organization should include an appropriate mix of the following:

- A culturally diverse staff that reflects the makeup of the community served
- Providers or interpreters who speak the clients' languages
- Training for providers about the cultures and languages of the people they serve
- Signage and instructional literature in the clients' languages and consistent with their cultural norms
- Culturally specific health care settings[17]

The IOM *Unequal Treatment* report identified cultural competence as being an important component of systems that deliver high-quality care.[11] Cultural competency is thought to be a mechanism to reduce racial and ethnic health disparities, enhance customer satisfaction, facilitate internal communication within the workforce, and improve organizational performance.[18]

Cultural competency goes beyond cultural awareness or sensitivity. It not only includes cultural knowledge and respect for different cultural perspectives, but more importantly, it means having skills to effectively provide care in cross-cultural situations.[19] Taken one step further, the term cultural competency has been used to refer to an ongoing commitment or institutionalization of appropriate practices and policies for diverse populations.[20] The concept of cultural competency is often presented as a continuum, in recognition that individuals and institutions can vary in the effectiveness of their responses to cultural diversity,[21] and that it "...should be viewed as an ongoing process...."[22] Researchers have found that implementation of cultural competency techniques could reduce disparities,[23] but it has been difficult to determine

the effectiveness of cultural competency interventions due to the paucity of rigorous comparative studies.[24]

II. Significance

Given the changing demographics of the U.S., it is particularly pivotal for disparities in outcomes and care to be addressed. Since the publication of the IOM report, residents in mostly minority communities continue to have lower socioeconomic status, greater barriers to health-care access, and greater risks for, and burden of, disease compared with the general population living in the same county or state.[25] Both the 2012 National Healthcare Disparities Report[26] and the 2012 National Healthcare Quality Report[27] found that almost none of the disparities in access to care have improved since the 2010 report. Disparities in health-care access and quality can result in unnecessary direct and indirect costs. According to a 2009 study by the Joint Center for Political and Economic Studies, eliminating health disparities for minorities would have reduced direct medical care expenditures by $229.4 billion and reduced indirect costs associated with illness and premature death by approximately $1 trillion during 2003–2006. In other words, health disparities are expensive, and addressing such disparities would have a direct effect on the economy.

Given the social and economic consequences of disparities in health care, it is important for organizations to be equipped with interventions and tools to address the causes. Cultural competency is suggested to be one of these tools. This dissertation will help quantify what types of hospitals are culturally competent and will explore possible correlation between cultural competency and patient satisfaction. This dissertation will add to the existing body of work on reducing and eliminating health disparities from a health administration point of view.

III. Study Aim and Research Questions

Aim: Determine whether relationships exist between patient outcomes and cultural competency, and determine which hospital organizational attributes are associated with cultural competency.

Research Question 1: Are certain hospital attributes correlated with cultural competency?

Hypothesis 1: Bed size and diversity of postal codes and locations are correlated with cultural competency.

Research Question 2: Is cultural competency associated with any patient satisfaction domains?

Hypothesis 2: Cultural competency will be positively correlated with some patient satisfaction domains.

IV. Organization of Dissertation

This dissertation is composed of three manuscripts, each of which addresses one study aim and is intended for individual submission to a peer-reviewed journal for publication. Each manuscript has been written to stand alone. Thus, background material may be repetitive throughout the dissertation. Chapter 1 of this dissertation introduces data concerning health disparities and the emergence of cultural competency as one possible remedy for such disparities, along with outlining the overall significance of the research conducted to date.

The first manuscript (Chapter 2) is a literature review of the effect of training interventions on patient outcomes in hospitals. The second manuscript (Chapter 3) and the third manuscript (Chapter 4) use comprehensive data merged from three sources: the Medicare Hospital Compare, the AHA Annual Survey of Hospitals, and the 2010 U.S. Census. The AHA data was used to compile a score that measures cultural competency. In Chapter 3, bivariate analysis and logistic regression was used to analyze the relationship between cultural competency and hospital characteristics. In Chapter 4, bivariate analysis and logistic regression was used to analyze the relationship between cultural competency and patient satisfaction.

Chapter 5 summarizes the findings and discusses the strengths and limitations of the complete study. In addition, this chapter presents implications for policy formulation and recommendations for future research. Appendices are included at the end of the dissertation.

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CHAPTER 2: A SYSTEMATIC REVIEW OF CULTURAL COMPETENCE TRAINING INTERVENTIONS ON PATIENT OUTCOMES IN HOSPITALS (MANUSCRIPT I)

ABSTRACT

Objective: To synthesize the findings of the effects of cultural competency training on patient outcomes.

Design: This was a systematic literature review and analysis.

Methods: An electronic search for articles published between 2000 and 2015 was conducted to identify studies that evaluated cultural competency training interventions on patient outcomes. I abstracted and synthesized data from studies that included both before- and after-intervention evaluation and a control group for comparison.

Main Outcome Measures: Evidence of the effectiveness and costs of cultural competence interventions in health care settings.

Results: A total of six studies were selected that meet the inclusion criteria. Out of the six studies, one demonstrated a specific improvement in a patient-related health outcome (decrease in HbA1c levels). Three found an improvement in patient satisfaction with the provider and two of the studies found an improvement in the provider's view of cultural competency. One study found that physician training had a limited impact on patient-reported and disease-specific outcomes.

Conclusions: Five of the six articles found a positive relationship between cultural competency training and patient and provider perception of care or patient outcomes, suggesting that improving cultural competency has a positive effect on patient outcomes.

Background

Definitions of cultural competency vary in detail, and some are more relevant than others to the health care industry. One explains that cultural and linguistic competence is "a set of congruent behaviors, attitudes, and policies that come together in a system, agency, or amongst professionals" that enables effective work in cross-cultural situations."[1] Another offers that, "'Culture' refers to integrated patterns of human behavior that include the language, thoughts, communications, actions, customs, beliefs, values, and institutions of racial, ethnic, religious, or social groups. 'Competence' implies having the capacity to function effectively as an individual and an organization within the context of the cultural beliefs, behaviors, and needs presented by consumers and their communities."[2] A "culturally competent" health care system "incorporates... the importance of culture, the assessment of cross-cultural relations, vigilance towards the dynamics that result from cultural differences, the expansion of cultural knowledge, and the adaptation of services to meet culturally unique needs."[4 3] In addition, a culturally competent organization should include an appropriate mix of the following:

- A culturally diverse staff that reflects the communities served
- Providers or interpreters who speak the clients' languages
- Training for providers about the cultures and languages of the people they serve
- Signage and instructional literature in the clients' languages and consistent with their cultural norms
- Culturally specific health care settings[4]

A 2002 Institute of Medicine (IOM) report entitled, *Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care*, identified cultural competence as being an important part of any system that delivers high quality care.[5] Cultural competency is thought to be a mechanism to reduce racial and ethnic health disparities, enhance customer satisfaction, facilitate internal communication within the workforce, and improve organizational performance.[6, 7, 8]

Cultural competency goes beyond cultural awareness or sensitivity. It not only includes cultural knowledge and respect for different cultural perspectives, but more importantly, it entails having skills to effectively communicate and provide care in cross-cultural situations.[1,9,10] Taken one step further, the term cultural competency has been used to refer to an ongoing commitment or institutionalization of appropriate practices and policies for diverse populations.[11,12] The concept of cultural competency is often presented as a continuum, in recognition that individuals and institutions can vary in the effectiveness of their responses to cultural diversity,[1,13] and that it "...should be viewed as an ongoing process...."[14]

Cultural Competency Standards

Several health care regulatory and accrediting bodies have issued standards related to cultural competency in hospitals. The U.S. Department of Health and Human Services, Office of Minority Health, published National Standards for Culturally and Linguistically Appropriate Services (CLAS) in Health Care in 2001.[15] The national CLAS standards are intended to advance health equity, improve quality, and help eliminate health care disparities by providing a blueprint for individuals and health care organizations to implement culturally and linguistically appropriate services. From 2010–2013, the CLAS Standards were updated and enhanced (Appendix A)[12] in response to health and health care disparities, changing demographics, and legal and accreditation requirements, offering an even stronger framework for providing culturally and linguistically appropriate services.

Title VI of the Civil Rights Act of 1964 bans discrimination on the basis of "race, color, and national origin," with subsequent Policy Guidance on the Act applying specifically to health care.[16] The Emergency Medical Treatment and Active Labor Act (EMTALA) of 1986 holds hospitals potentially liable for civil penalties as well as relief to the extent deemed appropriate by

a court if they do not provide language services to patients with limited English proficiency.[13] Executive Order 13166 (2000) requires federal agencies and organizations that receive federal funding to provide interpreters to individuals with limited English proficiency.[17] Medicaid regulations require providers and participating agencies to render culturally and linguistically appropriate services.[18] Medicare encourages providers to make bilingual services available to patients whenever necessary in order to adequately serve multilingual populations.

In 2009, the National Quality Forum published a *Comprehensive Framework and Preferred Practices for Measuring and Reporting Cultural Competency*, which outlined voluntary standards, guiding principles, and 45 preferred practices, divided into seven domains that aim to improve the quality of health care received by minority populations. Also in 2009, the American Recovery and Reinvestment Act established the principle of "meaningful use," which refers generally to appropriate and productive handling of electronic health information. The Centers for Medicare & Medicaid Services and the Office of the National Coordinator for Health Information Technology further established standards for the "meaningful use" of electronic health records. Among those standards is a requirement for the collection of data on race, ethnicity, and preferred language.

In 2010, the National Committee on Quality Assurance (NCQA) incorporated elements of the CLAS standards into its newly created Multicultural Health Care Standards Distinction program for health plans effective July 1, 2010. Also in 2010, the Joint Commission added cultural competency to its ongoing accreditation program for hospitals. The standards to "Advance Effective Communication, Cultural Competence, and Patient- and Family-Centered Care" became effective as of January 1, 2011. The attention of the Joint Commission to the issue of cultural competence is particularly important, as it is the major health care accrediting body of

the United States. The Joint Commission accredits and certifies more than 20,000 health care organizations and programs nationwide, with such accreditation and certification recognized as a symbol of quality that reflects an organization's commitment to meeting industry performance standards. And, beginning in 2013, the Substance Abuse Mental Health Services Administration (SAMHSA) required future grantees to demonstrate adherence to CLAS standards.

Given the increase in attention to cultural competency standards, some state agencies have embraced the importance of cultural and linguistic competency.[12] Specifically, Washington, Oregon, California, Connecticut, Maryland, New Jersey, and New Mexico have passed legislation that requires or strongly recommends cultural competency training. For example, California Assembly Bill No. 496, Chapter 630, requires all continuing medical education courses to contain curriculum that covers cultural and linguistic competency, as defined, in the practice of medicine. Given that cultural competency training is the key intervention that states are legislating in addressing the CLAS standards, it is important to determine if cultural competency training actually has any impact on patient-centered outcomes. In 2005, a systematic review was conducted that examined the effectiveness of cultural competency curricula.[19] In this analysis, Beach and colleagues found 52 studies addressing effects on provider competencies but only three addressing patient outcomes; they concluded that evidence of cultural competency training improving patient adherence and health care equity was lacking. The majority of the studies focused on the effectiveness of cultural competency training programs by measuring the learners' acquisition of skills, knowledge and attitudes—not by measuring the impact of the training program on patient outcomes.[18] Two reviews addressed the effects of training on health care systems and mental health services;[20,21] both concluded that the evidence for effectiveness of training on service delivery and patient outcomes was limited. Lie and colleagues[23] conducted

a similar review evaluating the impact of cultural competency curricula on patient outcomes and concluded that there is limited research showing a positive relationship between cultural competency training and improved patient outcomes.[21]

Study Design

A systematic literature review was conducted to assess studies that included any cultural competency intervention for health care providers or learners in which the impact on patients and/or health care utilization was measured. Formal methods of literature search, selection of relevant articles, abstraction of data, and synthesis of results were conducted in order to review the literature for evidence of the effectiveness of cultural competency interventions. We conducted an electronic search of MEDLINE/PubMed and the Education Resources Information Center (ERIC) for English-language articles published between January 2005 and December 2015. Our review used similar search terms as those generated by Lie:[22]

> (cultural competence OR cultural competency OR cultural diversity OR cultural diversities OR health disparities OR health disparity) AND (training OR curriculum OR teaching) AND (patient outcomes OR outcome assessment OR health care quality assurance) AND (professional patient relations OR patient compliance OR patient adherence OR patient satisfaction OR patient cooperation)

We reviewed the citation list of each article for additional studies that may have been missed using our search methods. The following criteria were used to exclude articles from further consideration: (1) published prior to 2005; (2) not written in English; (3) not based in the United States or Canada; (4) containing no original data; and/or (5) not involving a healthcare setting. Reviews, editorials, and unpublished abstracts and conference proceedings were excluded. The eligible studies had to (a) represent original studies of providers and patients; (b) include provider cultural competency education and/or training; and (c) measure specified patient-

centered outcomes (such as patient satisfaction) or disease outcomes (such as blood pressure, HbA1c levels, etc.).

Results

The electronic search yielded 107 abstracts from MEDLINE/PubMed and 459 from ERIC (Figure 1). Eleven abstracts were selected from MEDLINE/PubMed; four from ERIC met our inclusion criteria and were selected for review. Two of the abstracts were duplicated and two were gauged as not meeting our criteria. After reviewing the bibliographies of the selected articles, an additional three articles went under full review. A total of thirteen articles eventually went under full article review, and seven were subsequently excluded because either they did not include a specific cultural competency intervention ($n = 3$) or they did not measure a specific a patient outcome ($n = 4$).

Table 1: Summary of Literature Search and Selection

Database	Initial Article Count	Abstract Review	Article Review
MEDLINE/PubMed	107	11	5
Education Resources Information Center (ERIC)	459	3	1
Total	**566**	**13**	**6**

Patient-based end points were at least one of the outcomes of interest for all six of the studies. Three of the studies were focused on diabetes patients, one on asthma patients, one on mental health patients, and one did not target a specific patient population. Three studies involved multiple health professionals (physicians, nurses, home-care workers, community health workers, etc.) and three focused on training primary care physicians. As for the target patient populations, one study specifically targeted black patients, two targeted Latino patients, and the other three did not target patients of any specific minority group. In terms of cultural competency training, only two studies utilized a stand-alone cultural competency training

curriculum. The rest of the studies either integrated cultural competency in a larger training program ($n = 4$) or coupled the training with stratified performance reports ($n = 1$). A qualitative synthesis of the selected studies is shown in Table 2.

Table 2: Qualitative Synthesis of Selected Studies

Author (Year)	Title	Intervention	Design	Conclusion
Way (2002)[23]	Effectiveness of the New York State Office of Mental Health Core Curriculum: Direct care staff training	NY State Mental Health Core Curriculum training, which includes cultural competency	Pre/post consumer questionnaire	Improvement in recipients' perceptions of cultural competency
Mazor (2002)[24]	Teaching Spanish to pediatric emergency physicians: Effects on patient satisfaction	10-week medical Spanish and cultural competency training	Pre/post patient satisfaction questionnaire	Families significantly satisfied with the care they received
Majumdar (2004)[25]	Effects of cultural sensitivity training on health care provider attitudes and patient outcomes	Cultural sensitivity training	Randomized controlled trial	Positive health outcomes for patients and improved knowledge and attitudes of providers
Thom (2006)[26]	Development and evaluation of a cultural competency training curriculum	Cultural competency training	Pre/post testing of patients with diabetes and/or hypertension	Physician training had limited impact on patient-reported and disease-specific outcomes
McElmurry (2009)[27]	Implementation, outcomes, and lessons learned from a collaborative primary health care program to improve diabetes care among urban Latino populations	Diabetes education in Spanish to LEP Latino diabetes patients; providers were offered intensive Spanish language training and cultural competency workshops	Quasi-experiment; diabetes related labs (HbA1c and blood glucose)	Significant decrease in HbA1c
Sequist (2010)[28]	Cultural competency training and performance reports to improve diabetes care for black patients: a cluster randomized, controlled trial	Cultural competency training and monthly race-stratified performance reports	Cluster randomized, controlled trial	Provider awareness of racial disparities increased but clinical outcomes among black patients did not improve

A total of six studies were selected that met the inclusion criteria. Of the six studies, one demonstrated a specific improvement in a disease-related health outcome (decrease in HbA1c

levels) and the other five studies focused on patient satisfaction or patient/provider perceptions of care. Three studies found an improvement in patient satisfaction with the provider and two of the studies found an improvement in the provider's view of cultural competency. Only one study found that physician training had a limited impact on patient-reported and disease-specific outcomes. Five of the six articles found a positive relationship between cultural competency training and patient and provider perception of care or patient outcomes, suggesting that improving cultural competency indeed has a positive impact on patient outcomes.

Discussion

Cultural competency training is increasingly gaining the attention of health care administrators as a potential solution for addressing health disparities given the increasing legislation requiring cultural competency training of health care providers. Beach et al. demonstrated that there was good evidence that cultural competence training positively affects the knowledge, attitudes, and skills of health professionals.[20] However, studies that examine the impact of cultural competency training on patient outcomes—both disease and and patient-reported—are lacking. Although limited in quantity and scope, this review demonstrates a positive relationship between cultural competency and patient satisfaction. Given the passing of the Affordable Care Act (ACA), hospital administrators are actively looking for strategies to improve patient satisfaction, and this review suggests that cultural competency training might be an ideal solution.

The Patient Protection and Affordable Care Act will shift the dominant health care financing system from fee-for-service to pay-for-performance (P4P). Under fee-for-service, health care providers were reimbursed for the volume and complexity of services they provided.

P4P is a set of initiatives designed to improve efficacy and efficiency by providing financial incentives for quality, rather than quantity, of health services. There are several different initiatives within the ACA that fall under the broad umbrella of P4P. One, called "value-based purchasing," rewards hospitals for how well they perform on a set of quality metrics. Hospitals are rated on a set of clinical process-of-care measures, as well as patient experience of care dimensions. Under P4P, the maintenance of high-quality performance will be necessary for a health care organization to remain financially viable. In other words, the better the hospital's quality metrics or the more the hospital improves its performance, the better will be the hospital's reimbursement rates.[29] To this end, many facilities are utilizing the Consumer Assessment of Healthcare Providers and Systems (CAHPS®) survey to measure patient satisfaction and engagement. Patient engagement is defined as actions individuals must take to obtain the greatest benefit from the health care services available to them.[30] CAHPS is a standardized questionnaire developed by the Agency for Healthcare Research and Quality (AHRQ) for measuring how patients perceive the care they receive in hospitals. Medicaid is utilizing CAHPS scores when calculating reimbursement, which makes the CAHPS scores of particular importance to hospital administrators.

Given this clear financial incentive, there is a need for a robust study to make the connection between cultural competency training and improved patient engagement and satisfaction scores as measured by the CAHPS. None of the studies in this review utilized the CAHPS questionnaire as the survey tool to measure patient engagement. With CAHPS being the most commonly and widely used patient engagement survey tool in hospitals, it will be important for future research to utilize this specific survey tool.

While each of the studies in our literature review included a training component, it should be noted that training programs vary in quality, emphasis, and scope of delivery within an organization. Cultural competency training has maximum impact when it is: i) delivered to a majority of employees, creating critical mass; ii) attended by senior administrators as well as physicians, nurses, and other customer-facing staff; iii) designed to include skill development as well as increasing participants' knowledge and awareness, particularly in the area of cross-cultural communications; and iv) followed up by on-the-job coaching. If these criteria are not met, it is possible for a culturally competent care provider to work within a culturally incompetent organization. Therefore, it is important to distinguish between cultural competence of an individual and cultural competence of an organizational culture.[29]

In conclusion, six of the seven articles found a positive relationship between cultural competency training and patient and provider perceptions of care, suggesting that improvements in cultural competency have a positive impact on patient outcomes. Patel et al. are currently conducting a very promising study that examines whether cross-cultural communication training for physicians improves asthma outcomes for black and Latino pediatric patients.[31,32,33] They are reviewing disease outcomes such has asthma control, quality of life, and urgent care use, as well as patient/parent satisfaction measures.[28] However, the researchers are using a survey tool that the authors developed, rather than the CAHPS survey, decreasing the generalizability of results. There is a need for a robust survey that utilizes the CAHPS and enables measurement of cultural competency in order to provide stronger evidence that cultural competency efforts are a good investment for health care organizations looking to improve patient satisfaction.

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CHAPTER 3: PREDICTORS OF CULTURAL COMPETENCY AMONG HOSPITALS (MANUSCRIPT II)

ABSTRACT

Objective: To explore determinants of cultural competence performance among hospitals.

Study Design: Cross-sectional survey of hospitals. The sample included 4,778 American Hospital Association (AHA) member hospitals. The predictor variables included: bed size (< 100 beds = small; 100–199 beds = medium; > 200 beds = large); urban versus rural setting; location according to Census division; type of ownership (government-owned; private nonprofit; for-profit); Joint Commission accreditation; member of the Council of Teaching Hospitals and Health Systems (COTH); Catholic church operated; critical-access hospital; cultural competency legislation; and diversity of community.

Methods: A cultural competency score was created utilizing seven questions from the AHA annual survey. Multivariate and logistic regression was utilized to identify key characteristics of hospitals that have high cultural competency scores.

Results: Teaching hospitals had a significantly higher cultural competency score ($p < .05$) of 6.29 compared to 4.75 for hospitals that were not teaching hospitals. Hospitals that were Joint Commission accredited ($n = 3,411$) had a statistically significant ($p < .05$) higher mean cultural competency score of 5.29 compared to a score of 3.75 for hospitals that were not Joint Commission accredited ($n = 1,382$). Catholic hospitals ($n = 552$) had a statistically higher mean score of 5.54 compared to 4.76 ($p <. 05$) for non-Catholic hospitals. Lastly, rural referral centers

(n = 155) had a statistically significant higher cultural competency score of 5.30 compared to 4.83 (n = 4,638) non-rural referral centers. Based on analysis of means, the teaching hospitals had the highest mean with 6.29, the Catholic-hospital mean was 5.54, and rural referral centers and Joint Commission accredited hospitals both have means around 5.30. All of these categories are higher than the overall average of 4.84. There is also a significant association between cultural competency and Census division. In particular, the regions with the lowest levels of cultural competency are East South Central (39.2%) and West North Central (32%). Regions with greater proportions of hospitals in the high cultural competency category are South Atlantic (63.19%), Mid-Atlantic (63.10%), and East North Central (57.6%).

Conclusions and Policy Implications: Teaching hospitals that are urban, nonprofit, and have more than 500 beds are likely to have high cultural competency cores. In addition, hospitals that are Joint Commission accredited, are rural referral centers, or are located in the northeast are also likely to have high cultural competency. Lastly, hospitals that are located in the South Atlantic have high cultural competency; there is also a significant association between cultural competency score and cultural competency legislation being implemented in a state. This analysis provides an overview of the current landscape that may help policy makers identify where cultural competency improvement is most needed. Clearly, there is a need for improvement in cultural competency in small for-profit community hospitals. It appears that large, well-resourced hospitals at least have the structure in place to provide culturally competent care, but additional research is needed to determine if these organizations have better patient outcomes.

Background

Dramatic changes in the diversity of the U.S. population pose potential quality issues, such as reduced quality of care, worsening patient outcomes, increased risk of litigation, missed opportunities for screening because of lack of familiarity with the prevalence of conditions among certain minority groups; and diagnostic errors resulting from miscommunication.[1,2] The 2002 influential Institute of Medicine (IOM) report, *Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care*, identified over 175 studies documenting racial/ethnic disparities in the diagnosis and treatment of various conditions, even when analyses were controlled for various confounders including socioeconomic status, insurance status, stage of disease, comorbidity, and age.[3]

Health care organizations are beginning to recognize cultural competency as a strategy to decrease health disparities and improve patient satisfaction and engagement.[4] Definitions of cultural competency vary in detail, and some are more relevant than others to the health care industry. One explains that cultural and linguistic competence is "a set of congruent behaviors, attitudes, and policies that come together in a system, agency, or amongst professionals" that enables effective work in cross-cultural situations.[5] Further, ""Culture' refers to integrated patterns of human behavior that include the language, thoughts, communications, actions, customs, beliefs, values, and institutions of racial, ethnic, religious, or social groups. 'Competence' implies having the capacity to function effectively as an individual and an organization within the context of the cultural beliefs, behaviors, and needs presented by consumers and their communities."[6] The 2002 IOM report identified cultural competence as being an important part of any health care system that delivers high-quality care.[7]

A "culturally competent" health care system "incorporates... the importance of culture, the assessment of cross-cultural relations, vigilance towards the dynamics that result from cultural differences, the expansion of cultural knowledge, and the adaptation of services to meet culturally unique needs.[8] In addition, a culturally competent organization should include an appropriate mix of the following:

- A culturally diverse staff that reflects the communities served
- Providers or interpreters who speak the clients' languages
- Training for providers about the cultures and languages of the people they serve
- Signage and instructional literature in the clients' languages and consistent with their cultural norms
- Culturally specific health care settings[9]

Cultural competency goes beyond cultural awareness or sensitivity. It not only includes cultural knowledge and respect for different cultural perspectives, but more importantly, it entails having skills to effectively communicate and provide care in cross-cultural situations.[1,10,11] Taken one step further, the term cultural competency has been used to refer to an ongoing commitment or institutionalization of appropriate practices and policies for diverse populations.[12,13] The concept of cultural competency is often presented as a continuum, in recognition that individuals and institutions can vary in the effectiveness of their responses to cultural diversity,[1,14] and that it "...should be viewed as an ongoing process...."[15]

Specifically, the organizational cultural competency of hospitals has been of particular interest given the acute-care hospital's role in health care delivery. The acute-care hospital is recognized as the peak organization in health care. In 2012, there were 6,307 registered hospitals in the U.S. with over 36 million admissions annually across all hospitals.[16] These large, highly

complex, and dynamic organizations are the sites of the most sophisticated, intense, and diverse medical treatment across America. The most prominent efforts to transform the quality of health care delivered to patients are targeted at these and other large hospitals.[17]

Lehrman et al. examined what characteristics top-performing hospitals had in terms of patient experience of care and clinical care measures. They found that high-performing hospitals on the quality measures tend to be small (< 100 beds), large (> 200 beds) and rural, located in the New England or West North Central Census divisions, and/or nonprofit.[17] The top performers in patient experience only are most often small and rural, located in the East South Central division, and government owned.[14] However, Lehrman and his fellow researchers did not investigate which characteristics are associated with the top-performing *culturally competent* hospitals. Cultural competency is thought to be a mechanism to reduce racial and ethnic health disparities, enhance customer satisfaction, facilitate internal communication within the workforce, and improve organizational performance.[18,19,20]

To better define the characteristics of a culturally competent organization, the U.S. Department of Health and Human Services, Office of Minority Health, issued the Standards for Culturally and Linguistically Appropriate Services (CLAS) in Health Care in 2001.[21] The CLAS standards provide guidelines on policies and practices aimed at developing culturally appropriate systems of care. In 2013, the CLAS standards were updated and enhanced (Appendix A). The newly enhanced CLAS guidelines include fifteen standards, which are then categorized in one of the following four domains: (1) Principal Standard, (2) Governance, Leadership and Workforce, (3) Communication and Language Assistance, or (4) Engagement, Continuous Improvement, and Accountability. This robust set of standards defines components that comprise a culturally

competent organization and thus may be used as a guide when determining the cultural competence of an organization.

Methods

The study population of interest was hospitals located in the United States. The data were secured from three sources: the American Hospital Association (AHA), Medicare Hospital Compare, and the U.S. Census. The AHA conducts an annual survey (Appendix A) of the hospitals in the U.S; its database includes current and historical information on utilization, personnel, revenue, expenses, managed care contracts, community health indicators, physician models, etc. This survey collects information for over 1,000 data fields, which is divided into the following three categories: 1) organizational structure, 2) facilities and services, and 3) total facility beds, utilization, finances, and staff. The Hospital Compare database contains information on hospital quality indicators, with over 119 measures broken into 17 domains. Lastly, the U.S. Census provides information on geographical settings, as well as county-level factors.

There are currently 6,307 hospitals registered in the American Hospital Association (AHA) database, but 1,514 of these hospitals were excluded from our study because they did not answer any of the seven cultural competency questions. Fifteen were excluded because they were not listed in the Hospital Compare data. As a result, our analyses were based on a sample of 4,778 hospitals across the United States.

Seven questions in the AHA annual survey are related to cultural competency, and were used as a gauge of organizational cultural competency.

Table 1: AHA Survey Cultural Competency Questions	
1	Does your hospital or health system currently have or plan to develop, execute, or evaluate a diversity strategy or plan?
2	Does your hospital educate all clinical staff during orientation about how to address the unique cultural and linguistic factors affecting the care of diverse patients and communities?
3	Does your hospital require all employees to attend diversity training?
4	Does the hospital's strategic plan include goals for improving quality of care of culturally and linguistically diverse patient population?
5	Does your hospital gather information on a patient's race/ethnicity at any point during their stay?
6	Does your hospital gather information on a patient's primary language at any point during their stay?
7	Linguistic/translation services—[are they] provided [via hospital, health system, network, or joint venture]?

These seven questions listed in Table 1 address four of the fifteen CLAS standards, which fall into three of the four previously mentioned domains: (1) Educate and train governance, leadership, and workforce in culturally and linguistically appropriate policies and practices on an ongoing basis; (2) Offer language assistance to individuals who have limited English proficiency and/or other communication needs, at no cost to them, to facilitate timely access to all health care and services; (3) Establish culturally and linguistically appropriate goals, policies, and management accountability, and infuse them throughout the organization's planning and operations; and (4) Collect and maintain accurate and reliable demographic data to monitor and evaluate the impact of CLAS on health equity and outcomes and to inform service delivery. The AHA questions thus should provide a reasonable assessment of the cultural competency of an organization.

The seven AHA questions were utilized by our research team to create a cultural competency summary score for each organization. Each question was given equal weight and was worth one point. The points were assigned using the following criteria: Yes = 1, No = 0, and

Not Answered = 0. The maximum score that an organization could get was seven, and the lowest score was zero. More culturally competent organizations will thus have a higher score than organizations that are not as culturally competent. If an organization did not answer any of the seven questions, they were removed from the sample. The scores were the independent variable in subsequent analysis.

Hospital-Level Predictors

The following eleven hospital-level predictors that were available in the AHA database (describing hospitals in 2012) were utilized: bed size (< 100 beds = small; 100–199 beds = medium; > 200 beds = large); urban versus rural setting; location according to Census division; type of ownership (government-owned; private nonprofit; for-profit); Joint Commission accreditation; member of the Council of Teaching Hospitals and Health Systems (COTH); Catholic church operated; critical-access hospital; cultural competency legislation; and diversity of community. In addition, 2012 Census data will be used to measure the racial diversity of the postal codes in which the hospitals are located. Specifically, a racial diversity percentage was generated by calculating the diversity percentage of each postal code.

Results

Multivariate Analysis

The mean cultural competency score was 4.84 (*SD* 2.12). The distribution of cultural competency scores is shown in Table 2. Based on Table 2, a score of 0–5 is low and 6–7 is high. Given this breakdown, 49% had low scores and 51% had high cultural competency scores. Chi-square tests were used to assess the association between cultural competency and each of the hospital indicators. The analysis was run with cultural competence defined as two categories (low and high), as indicated in Table 2.

Table 2: Cultural Competency Score Distribution

	Score	Count	Percent
Low	0	347	7.24
Low	1	204	4.26
Low	2	215	4.49
Low	3	335	6.99
Low	4	522	10.89
Low	5	735	15.33
High	6	1,229	25.64
High	7	1,206	25.16

Bed Size Variable

As bed size increases, the mean cultural competency score also increases, as indicated in Table 3. The smallest hospitals, with bed size less than 24 (n = 494), had an average cultural competency score of 3.96, compared to the largest hospitals with greater than 500 beds (n = 283), which had a mean cultural competency score of 6.10. There is a significant positive association between bed size and cultural competency—in particular, 38% of small hospitals (< 100 beds) have high levels of competency compared to 71% of larger hospitals (≥ 200 beds) (chi-square = 448.1, p = .000).

Table 3: Mean Cultural Competency Score by Bed Size Code			
	Bed Size	**n**	**Mean**
Small	6–24 beds	494	3.96
Small	25–49 beds	1097	4.11
Small	50–99 beds	928	4.61
Medium	100–199 beds	937	5.08
Large	200–299 beds	540	5.48
Large	300–399 beds	331	5.83
Large	400–499 beds	183	5.98
Large	500 or more beds	283	6.10

State and Regional Variables

Table 4 shows the distribution of mean cultural competency scores by state or district. The top six highest mean cultural competency scores, listed in order, are the District of Columbia, Virginia, Connecticut, Delaware, New York, and New Jersey. All six are located in the Northeast and are ethnically and culturally diverse. The seven states that have legislation that requires or strongly recommends cultural competency training are Washington, Oregon, California, Connecticut, Maryland, New Jersey, and New Mexico. Three of these states are in the top ten in terms of competency scores, and six of the seven states with regulations scored above the average of 4.84. A chi-square test indicated that there is a significant association between cultural competency score and cultural competency legislation. Specifically, 57 percent of hospitals located in states with cultural competency legislation had a high cultural competency score, compared to 50 percent for hospitals located in states without cultural competency legislation. (chi-square = 11.41; p =.001)

The six places with the lowest mean scores are Mississippi, Alabama, Montana, Puerto Rico, Nebraska, and Louisiana. In general, the states that are located in the midwest and the southern United States tend to be more monocultural than others. To get a better understanding

of the impact of region on cultural competency, we will look at Census divisions, which categorize states and territories into the following nine tracks: New England (CT, ME, MA, NH, RI, VT), Mid-Atlantic (NJ, NY, PA, DC), East North Central (IN, IL, MI, OH, WI), West North Central (IA, KS, MN, MO, NE, ND, SD), South Atlantic (DE, FL, GA, MD, NC, SC, VA, WV), East South Central (AL, KY, MS, TN), West South Central (AR, LA, OK, TX), Mountain (AZ, CO, ID, NM, MT, UT, NV, WY), and Pacific (AK, CA, HI, PR, OR, WA).

Table 4: Mean Cultural Competency Score by Census Division

State	n	Mean	Std. Dev.	State	n	Mean	Std. Dev.
AK	14	3.85	2.18	MT	55	3.31	2.13
AL	206	3.11	3.72	NC	120	5.58	1.68
AR	80	4.74	1.87	ND	29	3.83	2.47
AZ	54	4.89	2.04	NE	60	3.57	2.49
CA	296	4.73	2.44	NH	26	4.96	1.66
CO	68	4.84	1.98	NJ	72	5.69	1.82
CT	32	5.96	1.62	NM	30	5.33	2.00
DC	11	6.10	1.30	NV	34	5.21	1.93
DE	7	5.86	2.61	NY	159	5.72	1.67
FL	152	5.25	2.37	OH	161	5.67	1.69
GA	107	5.05	2.02	OK	129	4.62	1.96
HI	21	5.43	1.69	OR	58	5.53	1.56
IA	126	4.59	1.69	PA	189	4.99	2.09
ID	35	4.31	2.65	PR	19	3.37	2.22
IL	159	5.36	1.58	RI	9	5.67	2.29
IN	124	5.05	1.67	SC	82	5.06	1.95
KS	151	3.91	1.81	SD	47	3.78	2.13
KY	90	5.11	1.91	TN	90	5.33	1.91
LA	118	3.68	2.49	TX	573	5.23	1.52
MA	68	5.44	2.16	UT	35	4.89	2.46
MD	51	5.25	1.99	VA	80	6.01	1.47
ME	39	4.44	1.93	VT	13	4.31	1.44
MI	135	5.26	1.78	WA	75	3.80	2.33
MN	106	4.47	2.11	WI	147	4.91	2.48
MO	151	5.08	1.77	WV	62	4.73	1.56
MS	112	2.00	2.61	WY	27	3.93	2.04

There is a significant association between cultural competency and Census division. In particular, the regions with the lowest levels of cultural competency are East South Central (39.2%) and West North Central (32%). Regions with higher proportions of hospitals in the high cultural competency category are South Atlantic (63.19%), Mid-Atlantic (63.10%), and East North Central (57.6%).

There was a statistically significant association between rural referral centers (high-volume acute-care rural hospitals that have more than 275 beds and treat large numbers of complicated cases) and cultural competency. However, the percentage differences are not as large as seen for other hospital characteristics. More broadly, there is a significant positive association between urban hospitals and cultural competency (chi-square = 375.25, p = .000).

Teaching and Community Hospital Variables

There was a positive significant association between cultural competency and being a member of the COTH (chi-square = 147.26, p = .000). As indicated in Table 5, community hospitals (n = 4,305) had a higher than mean cultural competency score (4.89) compared to non-community hospitals (4.43).

Table 5: Distribution and Mean Cultural Competency Scores

Type of Facility	Yes		No			
	n	Mean Score	n	Mean Score	F	Prob>F
Joint Commission accredited	3,411	5.3	1,382	3.7	343.04	.000
COTH member	293	6.3	4,500	4.8	75.91	.000
Catholic church operated	522	5.5	4,271	4.8	30.35	.000
Critical access	1,074	3.8	3,719	5.1	231.08	.000
Rural referral centers	155	5.3	4,638	4.8	4.47	.009
Urban	3,031	5.3	1,762	2.2	4.47	.009
Rural	1,762	2.2	3,031	5.3	4.77	.009

Joint Commission Accreditation

Hospitals that were Joint Commission accredited (n = 3,411) had a statistically significant ($p < .05$) higher mean cultural competency score of 5.29, compared to a score of 3.75 for hospitals that were not Joint Commission accredited (n = 1,382). There is a positive significant association between cultural competency and being accredited by the Joint Commission, as 60.6% of hospitals with accreditation have high levels of competency compared to only 26.7% for those with no accreditation (chi-square = 600.5, p = .000).

Catholic Church Operated

Catholic hospitals (n = 552) had a statistically higher mean score of 5.54 compared to 4.76 ($p < .05$) for non-Catholic hospitals. There is a positive significant association between cultural competency and being Catholic church operated (chi-square = 59.98, p = .000). Lastly, rural referral centers (n = 155) had a statistically significant higher cultural competency score of 5.30 compared to 4.83 (n = 4,638) for non-rural referral centers.

Ownership Type

There was a significant association between type of ownership and cultural competency (chi-square = 236.57, p = .000). In particular, 59% of private nonprofit hospitals have high rates of cultural competency compared to 46% among for-profit hospitals and 35% among government hospitals, which at the same time show higher proportions of low cultural competency levels.

Diversity Variable

There was a significant relationship between cultural competency and diversity (chi-square = 151.16, p = .000). However, the relationship was not linear. The differences in the mean of diversity for each level of competency were examined using one-way analysis of variance

(ANOVA). Looking at the ANOVA results, there are significant differences in diversity among the three levels of cultural competency. ($F = 22.27$, $p = .000$) In particular, hospitals with high levels of cultural competency have a higher mean ($M = 2.59$), compared to those in the low categories with means of 2.21 and 2.22 respectively.

Table 6: Mean Cultural Competency Score by Diversity Score

Diversity %	n	Score Mean
0–10%	2,121	4.6
11–20%	1,070	5.1
21–30%	561	5.0
31–40%	337	5.2
41–50%	239	4.9
51–60%	122	5.0
61–70%	117	4.6
71–80%	62	4.6
81–90%	53	5.0
91–100%	33	5.2

Critical Access

The only variable that was negatively associated with cultural competency scores was being a critical access hospital, as there is a significant negative association between cultural competency and being a critical access hospital (chi-square = 421.75, $p = .000$).

Logistic Regression

A logistic regression was run using the binary version of cultural competency as dependent variable (high cultural competency versus everything else). All hospital indicators (diversity, bed size, ownership status, Joint Commission accreditation, teaching hospital status, Catholic church operated, critical access status, and category of regional Census division) were included except rural referral center, which was not significant in the bivariate analysis. The diversity variable was used as a continuous variable instead of grouping into levels. To make the

interpretation easier, odds ratios, which are exponential of the log odds, will be used, as indicated in Table 7. Diversity is not a significant predictor ($p = .417$) of cultural competency. Bed size is a significant predictor with an odds of having a high level of cultural competency—1.25 times higher for medium-sized hospitals compared to small hospitals ($p = .011$) and 1.87 times higher for large hospitals compared to small hospitals ($p = .000$). Type of ownership is also a strong predictor of having high cultural competency. In particular, for-profit hospitals are less likely to have high levels of competency compared to private nonprofits ($OR = .62$, $p = .000$). Government hospitals have half the odds ($OR = .49$, $p = .000$) of being at a high level of competency compared to private nonprofits.

Table 7: Odds Ratio of Low vs. High Cultural Competency by Hospital Indicator

	Odds Ratio	Std. Err.	z	[95% Conf. Interval]	
Diversity	1.015	0.019	0.810	0.979	1.052
< 100 beds vs. > 100–199 beds*	1.252	0.111	2.540	1.053	1.490
< 100 beds vs. ≥ 200 beds*	1.872	0.171	6.860	1.565	2.239
Non-profit vs. for-profit*	0.619	0.054	-5.440	0.521	0.736
Non-profit vs. government*	0.494	0.043	-8.020	0.416	0.587
Joint Commission*	2.248	0.188	9.690	1.908	2.648
Teaching hospital*	3.170	0.631	5.790	2.145	4.684
Catholic church operated*	1.336	0.148	2.610	1.075	1.661
Critical access hospital*	0.568	0.056	-5.700	0.467	0.690
Mid-Atlantic	1.046	0.206	0.230	0.715	1.550
South Atlantic*	1.419	0.266	1.870	1.024	2.142
East North Central	1.229	0.225	1.130	0.862	1.770
East South Central	0.665	0.133	-2.040	0.450	0.984
West North Central	0.937	0.177	-0.340	0.647	1.358
West South Central	1.195	0.219	0.970	0.834	1.712
Mountain	1.101	0.225	0.470	0.737	1.644
Pacific	0.932	0.180	-0.370	0.620	1.327
Rural*	0.717	0.058	-4.120	0.612	0.840
Cultural competency legislation	.0922	.162	0.57	-.225	.409
*$p < .05$					

Hospitals with an accreditation by the Joint Commission have more than twice the odds of having a high level of cultural competency than hospitals which are not accredited ($OR = 2.25$, $p = .000$). Being a teaching hospital increases the odds of having high cultural competency by more than three times ($OR = 3.17$, $p = .000$). Being Catholic church operated also makes a hospital more likely to have high cultural competency, although the strength of this predictor is relatively small ($OR = 1.33$, $p = .009$). Being a critical access hospital lowers the odds of having high cultural competency ($OR = .57$, $p = .000$).

Finally, Census division is not a strong predictor of cultural competency. We see significant differences only for East South Central ($OR = .66$, $p = .041$). Hospitals in that region have lower odds of demonstrating high cultural competency compared to those in the reference category of New England.

Discussion

In this article, the association of hospital-level predictors with cultural competency achievement was explored. In particular, we predicted a two level outcome: high cultural competency and low cultural competency. These results contribute to an important refinement to prior studies that examined patient experience or clinical processes, but not organizational cultural competency. The two variables that have the largest odds ratios of having high cultural competency are hospital size (> 200 beds) and membership in the Council of Teaching Hospitals. There are additional hospital characteristics that have positive association with high cultural competency scores, which are not-for-profit status, Joint Commission accreditation, being Catholic church operated, and being government run. Surprisingly, diversity and region were not

good predictors of cultural competency scores. Moreover, being a critical access hospital was the sole variable that had a negative association.

There are several policy and research implications of this study. First, these findings are consistent with previous findings, that suggest that not-for-profit hospitals show greater organizational cultural competency than for-profit (FP) hospitals.[18] This association seems consistent with the different missions of for-profit and not-for-profit hospitals. For-profit hospitals are owned by investors, must pay taxes, and are not required to report on community benefit. Not-for-profit hospitals, on the other hand, are exempt from paying state and federal taxes on income and property, but they must submit an annual community benefit reports. Although both organizational structures should prioritize the needs of the patients, not-for-profit hospitals are generally more focused on community needs, versus for-profit hospitals that are primarily driven by financial motives. If for-profit hospital organizations do not see a return on investment for their initiatives in cultural competency, then it will be difficult to make the financial commitment. Further research is required to understand the impact of adopting culturally competent practices on financial performance. Specifically, a business case for cultural competency should be developed in order for hospital administrators to view such initiatives as having a positive effect on the bottom line.

Second, these findings suggest that state policy is actually having an impact on the cultural competency of hospitals. The seven states that currently have legislation that requires or strongly recommends cultural competency training are Washington, Oregon, California, Connecticut, Maryland, New Jersey, and New Mexico. Three of these states are in the top ten, and six of the seven states with that have passed legislation scored above the average of 4.84. This suggests that cultural competency training regulations are actually having the desired effect

on the decisions that hospital administrators make in terms of implementing cultural competency policies and programs. Further research is needed in order to examine if hospitals in states with cultural competency regulations show improved clinical patient or financial outcomes.

There are some limitations to the analyses present here. First, cultural competency is measured by using seven items from the AHA questionnaire. These items address only four of the fifteen CLAS standards. Therefore, this cultural competency measure is limited and not outcome-based. There are survey tools, such as the Cultural Competency Organizational Assessment (COA360), Communication Climate Assessment Tool (C-CAT), and the Cultural Competence Assessment Tool for Hospitals (CCATH), that have been developed to assist in measuring cultural competency. However, these survey tools have not been utilized with a robust cross-section of hospitals in the United Sates. Also, many of these tools, and specifically the AHA questions, are self-reported and thus subjective, as opposed to being objectively verified.

Second, although we controlled for a wide variety of hospital characteristics, cultural competency scores may still be confounded to some extent with unmeasured variation by region, state, or community. Third, these findings are not consistent with previous studies in regards to the diversity variable. Previous studies have found that hospitals with a more racial/ethnic diverse inpatient population have greater cultural competency.[18] In this analysis, however, we had access only to the postal code in which the hospital was located; not the diversity of the patient population. Further research is needed to examine the implications of racial/ethnic diversity of inpatient population as well as the racial/ethnic diversity of the hospital's specific service area.

Lastly, this analysis describes only the associations between hospital characteristics and cultural competency, and does not take into account patient outcomes, such as clinical process

measures or patient experience. And although 'competence' is defined in this paper as the "capacity to function effectively," our study focuses only on the existence of policies and procedures. In other words, the results of the research presented in this chapter show correlation between descriptive institutional factors and the presence of relevant policies and procedures, but do not examine the implementation and efficacy of such policies and procedures, nor their impact on organizational or individual attitudes and behavior—not to mention patient outcomes.

This analysis of the association of cultural competence with hospital characteristics provides an overview of the current landscape that may help policy makers identify where cultural competency improvement is most needed. Clearly, there is a need for improvement in cultural competency in small for-profit community hospitals. It appears that large, well-resourced hospitals at least have the structure in place to provide culturally competent care, but additional research is needed to determine if these organizations have better patient outcomes.

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CHAPTER 4: THE RELATIONSHIP BETWEEN CULTURAL COMPETENCY AND PATIENT SATISFACTION IN HOSPITALS (MANUSCRIPT III)

ABSTRACT

Objective: To examine the relationship between hospital cultural competency and patient satisfaction.

Study Design: The study population of interest is hospitals in the United States that are utilizing the Consumer Assessment of Healthcare Providers and Systems (CAHPS®) survey. There are currently 5,723 registered hospitals in the American Hospital Association (AHA) database and 4,778 hospitals included in the Medicare Hospital Compare data set. Only the hospitals that are included in both data sets (n = 4,778) will be included in this analysis.

Methods: The independent variable is the cultural competency score that was created utilizing seven questions from the AHA annual survey. The dependent variables will include ten CAHPS® measures: six composites (nurse communication, doctor communication, staff responsiveness, pain management, medication communication, and discharge information); two stand-alone report items (hospital cleanliness and hospital quietness); and two global items (likelihood to recommend and overall rating of hospital). Bivariate and multivariate analyses will be utilized to determine if there is a correlation between cultural competency and patient satisfaction domains.

Results: Out of the ten domains, only two satisfaction domains—staff responsiveness and hospital environment—displayed statistically significant differences between high cultural

competency hospitals and low cultural competency hospitals. Although counterintuitive, these statistically significant relationships were negative. However, when cultural competency was examined by the individual questions that made up the composite score, positive significant relationships did exist between individual domains and patient satisfaction domains. Specifically, collecting information on race/ethnicity and the patient's primary language was positively statistically correlated with the majority of the patient satisfaction domains, even after controlling for hospital characteristics. One domain, availability of linguistic services, was surprisingly negatively correlated with patient satisfaction domains.

Conclusions and Policy Implications: Collecting race/ethnicity and primary language is positively correlated with high cultural competency scores. This provides a compelling argument that collecting these two demographic pieces of information is associated with having high cultural competency. This supports a policy position that requires hospitals to collect these demographic information from patients. This evidence adds to the incentive that has already been provided by "meaningful use" mandates that encourage hospitals to collect race and primary language data from patients.

Background

The need for culturally competent health care in the United States is great. Major demographic shifts are changing the landscape of the U.S. population, with the racial and ethnic mix continuing to shift toward increasing proportions of Hispanics and Asians. The U.S. Census Bureau projects that by the middle of the twenty-first century, non-Hispanic whites will comprise a numerical minority of the U.S. population. Racial and ethnic minorities are burdened with higher rates of disease, disability, and death, and tend to receive a lower quality of health care than non-minorities, even when access-related factors such as insurance status and income are taken into account.[1] Health care organizations are beginning to recognize cultural competency as a strategy to decrease health disparities and improve patient engagement.[2] Patient engagement is defined as actions individuals must take to obtain the greatest benefit from the health care services available to them.[3]

The Patient Protection and Affordable Care Act (ACA) shifts the dominant health care financing system from fee-for-service to pay-for-performance (P4P), which heavily incentivizes patient engagement. Under fee-for-service, health care providers were reimbursed for the volume and complexity of services they provided. P4P is a set of initiatives designed to improve efficacy and efficiency by providing financial incentives for quality, rather than quantity, of health services. There are several different initiatives within the ACA that fall under the broad umbrella of P4P. One, called "value-based purchasing," rewards hospitals for how well they perform on a set of quality metrics. The better the hospital's quality metrics or the more the hospital improves its performance, the better will be the hospital reimbursement.[4] Under value-based purchasing, hospitals are rated on a set of clinical process-of-care measures and patient experience-of-care

dimensions. Thus the maintenance of high-quality performance will be necessary for any health care organization to remain financially viable.

One measure that has been of particular interest to hospital administrators is patient engagement, due to increased regulations, its impact on reimbursement, and evidence suggesting that more engaged patients have better health outcomes and lower use of health care services compared with less engaged patients. Currently, 30 percent of hospitals' Medicare reimbursement is being based on patient satisfaction survey scores as measured by the CAHPS survey. One percent of total Medicare reimbursements—approximately $850 million—was withheld from hospitals because they did not meet patient satisfaction benchmarks. Hospitals that meet certain patient-satisfaction score benchmarks and basic care standards will have the opportunity to earn the money back that was withheld, and the top performers will receive bonus money from the pool.[5] Although other quality measures exists, patient experience is one of the only indicators that any patient, regardless of disease or diagnosis, are included in.

The term "patient engagement" encompasses a number of related concepts, including patient-centered care, patient satisfaction, and shared decision-making, which all build on the concept of incorporating patients and families into their own care plans.[6] Patient engagement is most commonly measured by the CAHPS® Hospital Survey, a standardized instrument used to assess patient experiences in health care settings. Funded by the Agency for Healthcare Research and Quality,[7] the survey was developed in partnership with the Centers for Medicare and Medicaid Services (CMS). The CAHPS survey development process included a public call for measures, an extensive environmental scan, cognitive testing in English and Spanish, review by patient focus groups, input from stakeholders, and multiple field tests in both English and Spanish.[8] In addition, the CAHPS Hospital Survey has been endorsed by the National Quality

Forum (NQF) and has become the national standard for measuring patient experience in hospitals. The survey is administered to random samples of adult patients across medical conditions between 48 hours and six weeks after discharge.

The adult hospital survey produces ten measures of patient experience across six composites (nurse communication, doctor communication, staff responsiveness, pain management, medication communication, and discharge information); two stand-alone report items (hospital cleanliness and hospital quietness); and the two global items (likelihood to recommend and overall rating of hospital). Composite measures combine two or more survey questions that are statistically and conceptually related.[1] Patient engagement is becoming an increasingly important patient outcome, with several studies finding a positive relationship between cultural competency and patient and provider perceptions of care or patient outcomes. Mazor et al. found that families were significantly more satisfied with the care they received after the providers received cultural competency training. Way et al. found a statistically significant increase in satisfaction with provider communication after cultural competency training.[9] And lastly, Lieu et al. found that the organizations with the highest cultural competence reported better asthma outcomes for Medicaid recipients.[10]

However, very few studies have examined the impact of system-wide cultural competency efforts on patient engagement. Weech-Maldonado et al. conducted a study that examined cultural competency and CAHPS survey performance in California hospitals, utilizing the CCATH survey to measure cultural competency. They concluded that hospitals with greater cultural competency have better CAHPS scores for doctor communication, hospital rating, and hospital recommendation.[11] However, their study was limited to California and only 66 hospitals

participated. This study will examine the relationship between cultural competency and CAHPS performance across a large national sample of hospitals (n = 4,778).

Methods

The study population of interest is hospitals in the United States. There are currently 5,723 registered hospitals in the American Hospital Association (AHA) database and 4,778 hospitals included in the Medicare Hospital Compare data set that are located in the contiguous U.S. Only the hospitals that are included in both data sets (n = 4,778) will be included in this analysis.

The seven binary questions that are related to cultural competency in the 2012 AHA annual survey will be used as a proxy of organizational cultural competency.

Table 1: AHA Survey Cultural Competency Questions	
1	Does your hospital or health system currently have or plan to develop, execute, or evaluate a diversity strategy or plan?
2	Does your hospital educate all clinical staff during orientation about how to address the unique cultural and linguistic factors affecting the care of diverse patients and communities?
3	Does your hospital require all employees to attend diversity training?
4	Does the hospital's strategic plan include goals for improving quality of care of culturally and linguistically-diverse patient population?
5	Does your hospital gather information on a patient's race/ethnicity at any point during their stay?
6	Does your hospital gather information on a patient's primary language at any point during their stay?
7	Linguistic/translation services—[are they] provided [via hospital, health system, network, or joint venture]?

These seven questions address four of the fifteen CLAS Standards: (1) Educate and train governance, leadership, and workforce in culturally and linguistically appropriate policies and practices on an ongoing basis; (2) Offer language assistance to individuals who have limited English proficiency and/or other communication needs, at no cost to them, to facilitate timely

access to all health care and services; (3) Establish culturally and linguistically appropriate goals, policies, and management accountability, and infuse them throughout the organization's planning and operations, and (4) Collect and maintain accurate and reliable demographic data to monitor and evaluate the impact of CLAS on health equity and outcomes and to inform service delivery. Although all of the standards are not covered, three of the four domains are covered, suggesting that these questions will still provide a solid proxy of the cultural competency of an organization.

The seven questions were utilized to create a cultural competency score for each organization. Each question was given equal weight and was worth one point. The points were assigned using the following criteria: Yes = 1, No = 0, and Not Answered = Will not be included in the denominator. The raw numerical score will be converted to a percentage using a 100-point scale. The maximum score that an organization can get is 100 and the lowest score is zero. The expectation is that organizations that are more culturally competent will have higher scores than organizations that are not as culturally competent. These scores will be the independent variable in subsequent analysis.

The CAHPS scores from the Medicare Hospital Compare database were linked to the AHA database. Participation in Hospital Compare is voluntary; however, the Medicare Modernization Act in 2003 introduced financial incentives for hospitals to report data on ten performance measures to the CMS. Hospitals that do not submit performance data for these measures experienced a reduction of 0.4 percentage points in the annual Medicare fee schedule update. After implementation of the Medicare Modernization Act, 98 percent of hospitals report their performance on these measures. The data from these 16 measures have been posted on the CMS's Hospital Compare website since April 2005, and most measures are updated quarterly. The measures are broken into the following 16 categories: 1) Structural measures, 2) CAHPS, 3)

Acute myocardial infarction (AMI), 4) Heart failure (HF), 5) Pneumonia (PN), 6) Surgical Care Improvement Project (SCIP), 7) Emergency department (ED) throughput, 8) Preventive care, 9) Children's asthma care (CAC), 10) Stroke care, 11) Blood clot prevention and treatment, 12) Pregnancy and delivery care readmissions, complications, and deaths, 13) 30-day death and readmission rates, 14) Surgical complications, 15) Healthcare-associated infections (HAI), and 16) Outpatient imaging efficiency. See appendix B for details about each of the individual measures.

This study included 10 CAHPS measures of patient experience with care: six composite measures, two individual reports, and two global ratings. The six composite measures are constructed from 14 CAHPS items: nurse communication, doctor communication, staff responsiveness, pain management, medication communication, and discharge information.[3] The two stand-alone report items—hospital cleanliness and hospital quietness—and the two global items, likelihood to recommend and overall rating of hospital, were also included. Response options are "always," "usually," "sometimes," or "never" for all composite items; "yes" or "no" for the cleanliness and quietness items; "definitely no," "probably no," "probably yes," and "definitely yes" for the recommendation to friends and family; and 0–10 for the overall rating item (with zero labeled "worst possible" and ten labeled "best possible"), The top box score (9 or 10 rating) was the only one that was examined in this analysis. To facilitate comparisons, all dependent variables were transformed linearly to a 0–100 possible range.

Statistical Analysis

We conducted a t-test and a Mann-Whitney *U* test to examine statistical significance between means. We also conducted bivariate analysis between satisfaction scores and hospital demographic indicators; for the satisfaction domains, a clear significant relationship existed.

Lastly, regression models were built that controlled for the hospital indicators that had a correlation with the satisfaction domains.

Results

The Shapiro-Wilk test was utilized to test for normality among the satisfaction variables. Only one variable, staff responsiveness, had a normal distribution. One of the assumptions of a t-test is normality; therefore a non-parametric test (Mann-Whitney *U*) was used to compare satisfaction rates between hospitals with low/average cultural competency versus hospitals with high cultural competency. The test is more sensitive to deviations from normality. As shown in Table 2, only two satisfaction domains—staff responsiveness and hospital environment—had a statistically significant difference between high cultural competency hospitals and low cultural competency hospitals.

Table 2: Cultural Competency Comparison Among CAHPS Domains

	Low CC Score		High CC Score		Mean Difference	p-value
CAHPS Domains	**Mean**	**SE**	**Mean**	**SE**		
Nurse communication	75.677	0.357	74.906	0.219	-0.771	0.0315
Doctor communication	78.974	0.317	78.226	0.181	-0.748	0.0519
Staff responsiveness*	63.408	0.530	60.868	0.324	-2.540	0.0001
Pain management	68.575	0.308	68.034	0.191	-0.541	0.0905
Medication communication	60.742	0.388	59.820	0.219	-0.922	0.0597
Hospital cleanliness*	71.963	0.442	69.594	0.290	-2.369	0.0000
Hospital quietness	54.691	0.561	53.316	0.351	-1.375	0.1361
Discharge information	82.882	0.272	82.736	0.179	-0.146	0.4425
Overall rating of hospital	67.023	0.533	67.020	0.338	-0.003	0.9271
Likelihood to recommend	68.991	0.569	70.259	0.365	1.268	0.0788

There are significant differences in the nurse communication domain and the mean for the low cultural competency hospitals is slightly higher than for the high cultural competency hospitals (p =. 0315).

There are significant differences in the staff responsiveness domain between the two different levels of cultural competency. In particular, the mean score for hospitals with low cultural competency is 63.4 compared to an overall mean score of 60.8, suggesting that there is a negative association between the cultural competency scores and staff responsiveness (p = .0001).

The mean score for hospital cleanliness for hospitals with low cultural competency scores is 72, compared to a mean of 69.6 for hospitals with a high cultural competency score. There is a negative relationship between hospital cleanliness and cultural competency (p = .000).

The other domains—doctor communication, pain management, medication communication, discharge information, hospital quietness, likelihood to recommend, and overall rating of hospital—did not show significant differences between low and high cultural competency attainment. Given the limited number of patient satisfaction domains that were correlated with cultural competency, the exact analysis above was run for minority-majority hospitals to determine if more correlations were present. Specifically, there were 81 hospitals in this sample that had more than 50% diversity in the postal code area in which they were located (minority-majority), and no significant relationships were found between cultural competency scores and any of the satisfaction domains.

Bivariate Analysis

Bivariate analysis was conducted between the patient satisfaction domains and hospital indicators. Specifically, this analysis was conducted only for the two patient satisfaction domains —staff responsiveness and hospital cleanliness—that had a statistically significant difference in cultural competency achievement among hospitals.

Staff Responsiveness

There is a moderate negative correlation between diversity and staff responsiveness. Significant differences in satisfaction appear, however, with the staff responsiveness domain across different hospital sizes. In particular, small hospitals score the highest on that dimension ($F = 221.15$, $p = .000$). A non-parametric equivalent test (Kruskal-Wallis) was also run, and the results are consistent ($p = .000$). In addition, rural hospitals score significantly higher compared to urban hospitals when looking at staff responsiveness ($p = .0000$). There are also significant differences across the three types of ownership structure ($F = 3.64$, $p = .0265$), with government hospitals obtaining the higher rates, followed by private nonprofits. Results from the Kruskal-Wallis test are also significant ($p = .003$). Hospitals which are accredited by the Joint Commission and members of COTH show significantly lower rates of staff responsiveness ($p = .000$, $p = .000$), and results are consistent with the non-parametric test. There are significant differences across the Census divisions. In particular, hospitals in the East North Central and West North Central regions show higher satisfaction scores than other locations. Results of the one-way ANOVA are consistent with those obtained by its non-parametric equivalent. Lastly, no differences in satisfaction were found between Catholic and non-Catholic hospitals across the staff responsiveness domain.

Hospital Cleanliness

There is a moderate negative correlation between diversity and hospital cleanliness. There are significant differences in satisfaction with the hospital cleanliness domain across different hospital sizes. In particular, small hospitals score the highest on that dimension ($F = 174.32$, $p = .000$). The Kruskal-Wallis result are also consistent with these findings ($p = .0001$). In addition, rural hospitals score significantly higher compared to urban hospitals when looking at hospital cleanliness ($p = .0000$). There are also significant differences across the three types of

ownership structure ($F = 3.14$, $p = .0437$), with government hospitals obtaining the higher rates, followed by private nonprofits. Results from the Kruskal-Wallis test are also significant ($p = .016$). Hospitals which are accredited by the Joint Commission and members of COTH show significantly lower rates of hospital cleanliness ($p = .000$, $p = .000$), and results are consistent with the non-parametric test. There are significant differences across the Census divisions. In particular, hospitals in the East North Central and West North Central regions show the higher satisfaction scores. Results of the one-way ANOVA are consistent with those obtained by its non-parametric equivalent. Lastly, no differences in satisfaction were found between Catholic and non-Catholic hospitals across the hospital cleanliness domain.

Satisfaction by Cultural Competency Domain

The cultural competency score is made up of seven domains. Because there were no significant relationships with the cultural competency score, I examined whether relationships existed between individual questions that generated the cultural competency score and the patient satisfaction CAHPS domains. As shown in Table 3, three of the seven questions that created the cultural competency score had significant relationships with the CAHPS domains. Specifically, collecting race/ethnicity information from patients was statistically correlated with nine of the ten patient satisfaction domains. Linguistic services had a statistically significant relationship with eight out of ten of the patient satisfaction domains and "collect primary language" had a significant relationship with seven out of the ten domains. Surprisingly, offering diversity training to providers did not have a significant relationship with any of the domains. And the other three domains—diversity strategy, diversity orientation, and strategic plan—were correlated with only a few of the CAHPS domains. This suggests that

collecting race/ethnicity and primary language information from patients and providing linguistic services does in fact have a relationship with cultural competency.

Table 3: Wilcoxon Rank-sum Results of Cultural Competency Significance by Domains Compared to CAHPS Domains							
	Cultural Competency Score Domains						
CAHPS Domains	**Diversity Strategy**	**Diversity Orientation**	**Diversity Training**	**Strategic Plan**	**Collect Race/ Ethnicity**	**Primary Language**	**Linguistic Services**
Nurse communication	Not Sig	Not Sig	Not Sig	Sig	Sig	Sig	Sig
Doctor communication	Not Sig	Not Sig	Not Sig	Not Sig	Sig	Sig	Sig
Staff responsiveness	Sig	Not Sig	Not Sig	Sig	Sig	Not Sig	Sig
Pain management	Not Sig	Not Sig	Not Sig	Not Sig	Sig	Sig	Sig
Medication communication	Not Sig	Not Sig	Not Sig	Not Sig	Sig	Sig	Sig
Hospital cleanliness	Not Sig	Sig	Not Sig	Sig	0.7258	Not Sig	Sig
Hospital quietness	Not Sig	Not Sig	Not Sig	Not Sig	Sig	Sig	Sig
Discharge information	Not Sig	Not Sig	Not Sig	Not Sig	Sig	Not Sig	Not Sig
Overall rating of hospital (top box)	Not Sig	Not Sig	Not Sig	Not Sig	Sig	Sig	Not Sig
Likelihood to recommend	Sig	Sig	Not Sig	Not Sig	Sig	Sig	Sig
Sig = Significant at the $p < .05$ level and Not Sig = Not Significant at the $p < .05$ level							

Examination of the means of collecting race/ethnicity information from the patient shows a positive correlation with nine of the patient satisfaction domains at the $p < .05$ level. The only domain that is not positively correlated with collecting race/ethnicity information is hospital cleanliness ($p = .7258$). One of the largest mean differences exists in the "likelihood to recommend" domain, with a low cultural competency score having a mean of 66.64 compared to an overall mean score of 70.188, a difference of 3.55 ($p = .0003$).

Table 4: Collecting Race/Ethnicity Domain Comparison Among CAHPS Domains						
	Low CC Score		High CC Score		Mean Difference	p-value
CAHPS Domains	Mean	SE	Mean	SE		
Nurse communication*	73.460	0.663	75.401	0.197	1.941	0.0012
Doctor communication*	77.475	0.539	78.624	0.171	1.150	0.0113
Staff responsiveness*	60.258	0.957	61.982	0.297	1.724	0.0296
Pain management*	66.556	0.534	68.438	0.172	1.883	0.0001
Medication communication*	58.424	0.668	60.369	0.207	1.945	0.0014
Hospital cleanliness	70.308	0.809	70.474	0.260	0.166	0.7258
Hospital quietness*	51.823	0.881	54.063	0.322	2.240	0.0087
Discharge information*	81.833	0.566	82.908	0.154	1.074	0.0394
Overall rating of hospital*	64.338	0.918	67.353	0.303	3.015	0.0008
Likelihood to recommend*	66.641	1.014	70.188	0.324	3.547	0.0008*

Examination of the means of collecting preferred language information from the patient shows a positive correlation with eight of the patient satisfaction domains at the $p < .05$ level. As indicated in Table 5, the only domains that are not positively correlated with collecting race and ethnicity information are staff responsiveness and hospital cleanliness ($p = .2033$; $p = .5204$). Hospital cleanliness was also not correlated with collecting race/ethnicity information from the patient. Similar to the other domains, the largest mean differences existed in the "likelihood to recommend" domain, with those hospitals with a low cultural competency score having a mean of 66.3 compared to an overall mean score of 70.3, a difference of 3.97 ($p = .0001$).

Table 5: Collecting Preferred Language Domain Comparison Among CAHPS Domains							
	Low CC Score		High CC Score		Mean Difference	t-test p-value	MW p-value
CAHPS Domains	Mean	SE	Mean	SE			
Nurse communication*	73.792	0.610	75.377	0.199	1.586	0.0068	0.011
Doctor communication*	77.519	0.497	78.631	0.173	1.113	0.0268	0.0161
Staff responsiveness	60.972	0.912	61.904	0.299	0.932	0.2879	0.2033
Pain management*	66.954	0.512	68.405	0.174	1.451	0.0043	0.0023
Medication communication*	59.009	0.665	60.312	0.207	1.302	0.0333	0.018
Hospital cleanliness	70.037	0.730	70.513	0.263	0.476	0.532	0.5204
Hospital quietness*	52.287	0.797	54.025	0.327	1.738	0.0625	0.0697
Discharge information	81.995	0.518	82.898	0.156	0.902	0.0517	0.0643
Overall rating of hospital*	64.282	0.830	67.395	0.307	3.113	0.0005	0.0003
Likelihood to recommend*	66.301	0.908	70.275	0.328	3.974	0.0000	0.0001

The third variable that had significant correlation with patient satisfaction domains is linguistic services; as shown in Table 6, this is the only domain that appears to be negatively correlated. Of the eight patient satisfaction domains that have a statistically significant relationship, only one of them has a positive relationship with availability of linguistic services. This finding is counterintuitive, as one would expect patient satisfaction to positively correlated, specifically in the communication domains, with availability of linguistic services.

Table 6: Translation Services Domain Comparison among CAHPS Domains

	Low CC Score		High CC Score		Mean Difference	t-test p-value	MW p-value
CAHPS Domains	**Mean**	**SE**	**Mean**	**SE**			
Nurse communication*	75.888	0.380	74.903	0.219	-0.985	0.007	0.021
Doctor communication*	79.087	0.337	78.259	0.184	-0.827	0.022	0.040
Staff responsiveness*	64.162	0.565	60.833	0.321	-3.329	0.000	0.000
Pain management*	68.855	0.319	67.978	0.192	-0.877	0.016	0.025
Medication communication*	61.066	0.430	59.787	0.217	-1.279	0.004	0.033
Hospital cleanliness	72.490	0.484	69.633	0.281	-2.858	0.000	0.000
Hospital quietness*	56.106	0.633	52.890	0.334	-3.216	0.000	0.000
Discharge information	83.170	0.291	82.635	0.176	-0.535	0.108	0.119
Overall rating of hospital	67.218	0.572	66.941	0.335	-0.277	0.665	0.755
Likelihood to recommend*	68.838	0.610	70.186	0.360	1.348	0.050	0.010

Logistic Regression

Given that collecting information on race, ethnicity, and the patient's primary language was positively statistically correlated with the majority of the patient satisfaction domains, regression models were built to control for the hospital characteristics that we know are correlated with patient satisfaction. The model was adjusted for the following predictors: bed size; urban versus rural setting; location according to Census division; type of ownership (government-owned; private nonprofit; for-profit); teaching status; Joint Commission accreditation; member of the Council of Teaching Hospitals and Health Systems (COTH); Catholic church operated; critical-access hospital; cultural competency legislation; and diversity

of community. All satisfaction domains are positively associated with the race/ethnicity domain, as can be seen in Table 7.

Table 7: Logistic Regression Results to Predict Race/Ethnicity Domain by CAHPS Domains						
CAHPS Domains	**Odds Ratio**	**Std. Err.**	**z**	**p**	**95% Conf. Interval**	
Nurse communication*	1.080	0.026	3.22	0.001	1.031	1.132
Doctor communication*	1.079	0.029	2.8	0.005	1.024	1.139
Staff responsiveness*	1.064	0.019	3.45	0.001	1.027	1.103
Pain management*	1.100	0.026	4.00	0.000	1.050	1.152
Medication communication*	1.100	0.026	4.02	0.000	1.051	1.153
Hospital quietness*	1.036	0.017	2.16	0.031	1.003	1.069
Discharge information*	1.076	0.030	2.60	0.009	1.018	1.137
Overall rating of hospital*	1.058	0.016	3.75	0.000	1.027	1.090
Likelihood to recommend*	1.046	0.014	3.41	0.001	1.019	1.073

Even after controlling for the eleven hospital characteristics, all satisfaction domains are positively associated with the preferred language domain, as can be seen in Table 8.

Table 8: Logistic Regression Results of Preferred Language Domain by CAHPS Domains						
CAHPS Domains	**Odds Ratio**	**Std. Err.**	**z**	**p**	**95% Conf. Interval**	
Nurse communication*	1.075	0.024	3.21	0.001	1.029	1.123
Doctor communication*	1.088	0.029	3.28	0.001	1.035	1.145
Pain management*	1.082	0.019	3.45	0.001	1.027	1.103
Medication communication*	1.070	0.023	3.11	0.002	1.025	1.117
Hospital quietness*	1.041	0.016	2.57	0.01	1.010	1.073
Discharge information*	1.064	0.029	2.30	0.022	1.009	1.121
Overall rating of hospital*	1.058	0.015	3.97	0.000	1.029	1.089
Likelihood to recommend*	1.050	0.013	3.83	0.000	1.024	1.073

When examining the seven-item cultural competency composite score, only two satisfaction domains—staff responsiveness and hospital environment—showed statistically significant differences between high cultural competency hospitals and low cultural competency hospitals. Although counterintuitive, these statistically significant relationships were negative. However, when cultural competency was examined by looking at the individual questions that

made up the score, positive significant relationships did exist between individual domains and patient satisfaction domains. Specifically, collecting information on race/ethnicity and the patient's primary language was positively statistically correlated with the majority of the patient satisfaction domains. Even after controlling for the hospital characteristics that were correlated with cultural competency, all satisfaction domains are positively associated with collecting race/ethnicity and primary language information. One domain, availability of linguistic services, was negatively correlated with the patient satisfaction domains.

Discussion

The lack of relationship between cultural competency scores and doctor/nurse communication domains was surprising. Poor communication is one of the root causes of cultural competency breakdown. Health care organizations implement training programs to improve cultural competency, and addressing communication is typically a foundational piece of this training. However, our analysis did not find a relationship between cultural competency and patient-perceived nurse and doctor communication. One potential reason for this is how cultural competency was measured in this analysis. The seven questions that were combined in the AHA data to create the cultural competency score did not include any questions about communication nor the patient's view, and the questions included in the cultural competency score were structural rather than behavioral.

However, when the correlations between the individual components of the cultural competency score and the CAHPS domains were examined, significant relationships did exist. Specifically, collecting race/ethnicity and primary language information from patients and providing linguistic services do, in fact, have a relationship with cultural competency. This provides a compelling argument that hospital administrators should invest resources in updating

check-in/registration processes and procedures to collect these two important pieces of information from patients. This evidence adds to the incentive that has already been provided by "meaningful use" mandates that encourage hospitals to collect race and primary language data from patients.

"Meaningful use" sets specific objectives that hospitals must achieve to qualify for Centers for Medicare & Medicaid Services Incentive Programs. The provisions of "meaningful use" mandate the use of certified electronic health record technology to (1) improve quality, safety, efficiency, and reduce health disparities; (2) engage patients and family; (3) improve care coordination; and (4) maintain privacy and security of patient health information.[12] Measure 7 of the 2014 "meaningful use" guidelines included an objective for hospitals to record the following demographics: preferred language, gender, race, ethnicity, and date of birth. The criteria to meet this measure specified that for more than fifty percent of all unique patients seen, the hospital must have collected the selected demographics.[13]

Moreover, given the impact that patient satisfaction scores and "meaningful use" have on reimbursement, it is not only good in terms of cultural competency to implement these data collection practices, but also beneficial to the bottom line. Further justification comes from the "likelihood to recommend" question; five of the seven cultural competency domains were positively correlated with this item. Again, this makes the case that investing in cultural competency is correlated with patient satisfaction, which in turn will lead to return on investment if hospital administrators invest in cultural competency.

Some researchers have questioned whether patient satisfaction should be seen as a clinical outcome measure. In fact, a national study revealed that patients who reported being most satisfied with their doctors actually had higher health care and prescription costs and were

more likely to be hospitalized than patients who were not as satisfied.[14] Worse, the most satisfied patients were significantly more likely to die within the next four years. However, higher satisfaction with care has been associated with lower in-patient mortality,[15,16,17] better adherence to practice guidelines.[10,18,19] lower health care utilization,[13] improved health status at discharge,[20] reduced readmissions,[11] and lower risk of physician lawsuits.[21] Patients with a self-reported poor care experience measure had twice the risk of an adverse event or medical error being documented in their charts.[22] Yet, one study that examined CAHPS scores and readmissions found paradoxical results, in which higher scores on questions regarding "nurses listening" and "doctors explaining information" were linked to a decreased risk of readmission while higher scores regarding "help after discharge" were linked to an increased risk for readmission.[23] So although there is some evidence that suggests that patient satisfaction is linked with better quality, there is also evidence that suggests the contrary, which is consistent with the analysis conducted in this paper.

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CHAPTER 5: DISCUSSION

I. Summary of Findings

For the first manuscript of this dissertation, a literature review was conducted in order to synthesize the findings to date for addressing the effects of cultural competency training on patient outcomes. A total of six studies were selected that met the inclusion criteria. Of the six studies, one demonstrated a specific improvement in a patient-related health outcome (decrease in HbA1c levels). Three found improvement in patient satisfaction with the provider, and two of the studies found improvement in the provider's view of cultural competency. One study found that physician training had a limited impact on patient-reported and disease-specific outcomes.

The purpose of the second manuscript was to explore determinants of cultural competence performance among hospitals. It appears that hospitals having high cultural competency scores are likely to be located in the northeast region of the United States, be teaching hospitals, have more than 500 beds, be Joint Commission accredited, and/or be rural referral centers. Based on analysis of means of the cultural competency scores, teaching hospitals had the highest mean with 6.29, Catholic church operated hospitals had the second-highest mean with 5.54, and rural referral centers and Joint Commission accredited hospitals both had means around 5.30. All of these figures are higher than the overall average of 4.84.

In the third manuscript, we examined the relationship between hospital cultural competency and patient satisfaction. Only two satisfaction domains—staff responsiveness and hospital environment—had a statistically significant difference between high cultural competency hospitals and low cultural competency hospitals. Although counterintuitive, these statistically significant relationships were negative. However, when cultural competency was examined by looking at the individual questions that made up the scores, positive significant

relationships did exist between individual domains and patient satisfaction domains. Specifically, collecting information on race/ethnicity and patients' primary languages was positively statistically correlated with the majority of the patient satisfaction domains. Even after controlling for hospital characteristics that were correlated with cultural competency, all satisfaction domains are positively associated with collecting information on race/ethnicity and primary language.

II. Policy Implications

The increasing diversity of the United States brings opportunities and challenges for health care providers, health care systems, and policy makers to create and deliver culturally competent services. Cultural competence is defined as the ability of providers and organizations to effectively deliver health care services that meet the social, cultural, and linguistic needs of patients. A culturally competent health care system can help improve health outcomes and quality of care, and can contribute to the elimination of racial and ethnic health disparities. There are three specific policy implications of this study: (1) Not-for profit hospitals have higher cultural competency than for-profit hospitals, suggesting that policies should be developed to encourage cultural competency in for-profit hospitals; (2) Cultural competency legislation leads to improved cultural competency for the hospitals located in states with such legislation, and (3) Collecting race/ethnicity and preferred language data leads to improved patient satisfaction scores.

For-Profit Hospital Cultural Competency

First, our findings suggest that not-for-profit hospitals show greater organizational cultural competency than for-profit hospitals. This result appears to be consistent with the different missions of for-profit and not-for-profit hospitals, with the latter more attuned to

community needs as opposed to the focus on financial gain among for-profit hospitals. For-profit hospitals comprise approximately 22 percent of the total hospitals in the United States; over the past decade, more than 200 hospitals have switched from not-for-profit to for-profit status.[1]

A study conducted in 2014 found that hospitals switching to for-profit status improved their financial health, but that quality and safety outcomes did not change when their status changed. Likewise, the researchers found no evidence that hospitals switching to for-profit status were subsequently less likely to care for poor patients or for racial or ethnic minorities.[2] This study, however, did not investigate cultural competency or specific outcomes of minority patients.

This dissertation delivers strong evidence that not-for-profit hospitals are more likely to have high culturally competency than for-profit hospitals. Such evidence suggests that policy makers should implement cultural competency regulations that specifically target for-profit hospitals, given the trend that hospitals are increasingly becoming for-profit to achieve better financial health. To strengthen the case for developing such policies, further research is needed to understand the effects of adopting cultural competency practices on market share, revenues, and ultimately, financial performance. A business case for culturally competency, demonstrating that hospitals adopting these practices could gain a competitive advantage with positive implications for financial performance, is likely to motivate for-profit hospitals to increase their cultural competency activities.

Cultural Competency Legislation

Over the past decade, there has been an emerging trend of federal and state legislation that encourages, incentivizes, or even requires health care organizations to be culturally competent. Seven states have implemented legislation around providing relevant training on

cultural competence and cross-cultural issues to health professionals, and creating policies that reduce administrative and linguistic barriers to patient care. Specifically, Washington, Oregon, California, Connecticut, Maryland, New Jersey, and New Mexico have passed legislation that requires or strongly recommends cultural competency training. For example, California Assembly Bill No. 496, Chapter 630, requires all continuing medical education courses to contain curriculum that includes cultural and linguistic competency, as defined, for the practice of medicine. Given that cultural competency training is the key intervention that states are legislating in addressing CLAS standards, it is important to determine if cultural competency training actually has any impact on patient-centered outcomes.

One of the limitations of cultural competency strategies is the lack of empirical evidence proving that investment in cultural competency results in tangible results. In the literature review that I conducted, six of the seven articles found a positive relationship between cultural competency training as well as patient and provider perception of care or patient outcomes, suggesting that improvements in cultural competency do have a positive impact on patient outcomes. In addition, Manuscript III found that hospitals located in states with cultural competency legislation had higher cultural competency than the hospitals located in states without cultural competency legislation. This is strong evidence that cultural competency legislation is in fact effective and achieving tangible results. Further research is needed to understand if certain legislative policies are more effective than others.

Patient Satisfaction and Collecting Race/Ethnicity and Preferred Language Data

The Patient Protection and Care Act will shift the dominant health care financing system from fee-for-service to pay-for-performance (P4P). Under fee-for-service, health care providers were reimbursed for the volume and complexity of services they provided. P4P is a set of

initiatives designed to improve efficacy and efficiency by providing financial incentives for quality, rather than quantity, of health services. Several different initiatives within the Affordable Care Act (ACA) fall under the broad umbrella of P4P. Value-based purchasing rewards hospitals for how well they perform on a set of quality metrics. The better a hospital's quality metrics, or the more a hospital improves its performance, the better will be the reimbursement.[3] Under value-based purchasing, hospitals are rated on a set of clinical process-of-care measures as well as patient experience-of-care dimensions. Under P4P, the maintenance of high-quality performance will be necessary for any health care organization to remain financially viable. Many hospitals are utilizing the Consumer Assessment of Healthcare Providers and Systems (CAHPS) survey to measure patient satisfaction and engagement. CAHPS is a nationally standardized questionnaire developed by the Agency for Healthcare Research and Quality for measuring how patients perceive the care they receive in hospitals. Medicaid is also utilizing CAHPS scores when calculating reimbursement, which makes CAHPS scores of particular importance to hospital administrators.

Given the passing of the Affordable Care Act, and with thirty percent of hospitals' Medicare reimbursement being dependent on patient satisfaction survey scores, hospital administrators are actively seeking strategies that improve patient satisfaction. This analysis suggests that cultural competency training and collecting race/ethnicity and preferred language demographics are strategies that improve patient satisfaction. This is rather low-hanging fruit for those health care organizations that are already implementing electronic health records (EHR) systems to be compliant with "meaningful use" guidelines. Adding additional fields into the EHR and retraining intake staff to ask a few additional demographic questions can lead to more culturally competent care and improved patient satisfaction. Further research needs to be

conducted to determine if hospitals that collect these demographic domains experience any impact on health disparities or patient outcomes.

III. Limitations

There are two key limitations to this study: (1) the method by which cultural competency was measured, and (2) the potential biases of patient satisfaction data collected via CAHPS. Cultural competency was measured by using seven questions from an AHA survey. These questions address only four of the fifteen CLAS Standards. Therefore, the cultural competency measure that was developed for this analysis was limited and not outcome-based.

In recent years, three questionnaires have been developed to assist in measuring cultural competency—the Cultural Competency Organizational Assessment (COA360), the Communication Climate Assessment Tool (C-CAT), and the Cultural Competence Assessment Tool for Hospitals (CCATH). These tools measure the cultural competency of an organization in terms of all CLAS standards; not just one domain. In particular, the COA360 is an evidence-based, web-based cultural competency questionnaire that evaluates the readiness of a health care organization or clinical unit to meet the needs of a rapidly diversifying U.S. population.[4] The results of using any of these survey instruments, such as the COA360, would provide a more robust understanding of cultural competency of any given organization.

Lastly, a number of studies have shown that cultural differences in questionnaire response styles exist among different racial and ethnic groups. A study conducted in Canada found that compared to those of European heritage, responses from individuals of East-Asian heritage tend to be more ambivalent and moderate.[5] Another study found that English-language questionnaires elicit a higher level of middle responses, while questionnaires in a respondent's native language result in more extreme response styles. In addition, English language

competence is positively related to extreme response styles and negatively related to middle response styles.[6] These cultural differences when answering survey questions could potentially be skewing patient satisfaction data.

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Appendix A: CLAS Standards

Principal Standard:
1. Provide effective, equitable, understandable, and respectful quality care and services that are responsive to diverse cultural health beliefs and practices, preferred languages, health literacy, and other communication needs.
Governance, Leadership and Workforce:
2. Advance and sustain organizational governance and leadership that promotes CLAS and health equity through policy, practices, and allocated resources.
3. Recruit, promote, and support a culturally and linguistically diverse governance, leadership, and workforce that are responsive to the population in the service area.
4. Educate and train governance, leadership, and workforce in culturally and linguistically appropriate policies and practices on an ongoing basis.
Communication and Language Assistance:
5. Offer language assistance to individuals who have limited English proficiency and/or other communication needs, at no cost to them, to facilitate timely access to all health care and services.
6. Inform all individuals of the availability of language assistance services clearly and in their preferred language, verbally and in writing.
7. Ensure the competence of individuals providing language assistance, recognizing that the use of untrained individuals and/or minors as interpreters should be avoided.
8. Provide easy-to-understand print and multimedia materials and signage in the languages commonly used by the populations in the service area.
Engagement, Continuous Improvement, and Accountability:
9. Establish culturally and linguistically appropriate goals, policies, and management accountability, and infuse them throughout the organization's planning and operations.
10. Conduct ongoing assessments of the organization's CLAS-related activities and integrate CLAS-related measures into measurement and continuous quality improvement activities.
11. Collect and maintain accurate and reliable demographic data to monitor and evaluate the impact of CLAS on health equity and outcomes and to inform service delivery.
12. Conduct regular assessments of community health assets and needs and use the results to plan and implement services that respond to the cultural and linguistic diversity of populations in the service area.
13. Partner with the community to design, implement, and evaluate policies, practices, and services to ensure cultural and linguistic appropriateness.
14. Create conflict and grievance resolution processes that are culturally and linguistically appropriate to identify, prevent, and resolve conflicts or complaints.
15. Communicate the organization's progress in implementing and sustaining CLAS to all stakeholders, constituents, and the general public.

Appendix B: CMS's Hospital Compare HCAHPS Measures

HCAHPS Measures: Survey of Patient Experiences	
Measure identifier	**Measure title**
H-COMP-1-A-P	Communication with nurses (Composite measure)
H-COMP-1-U-P	Communication with nurses (Composite measure)
H-COMP-1-SN-P	Communication with nurses (Composite measure)
H-COMP-2-A-P	Communication with doctors (Composite measure)
H-COMP-2-U-P	Communication with doctors (Composite measure)
H-COMP-2-SN-P	Communication with doctors (Composite measure)
H-COMP-3-A-P	Responsiveness of hospital staff (Composite measure)
H-COMP-3-U-P	Responsiveness of hospital staff (Composite measure)
H-COMP-3-SN-P	Responsiveness of hospital staff (Composite measure)
H-COMP-4-A-P	Pain management (Composite measure)
H-COMP-4-U-P	Pain management (Composite measure)
H-COMP-4-SN-P	Pain management (Composite measure)
H-COMP-5-A-P	Communication about medicines (Composite measure)
H-COMP-5-U-P	Communication about medicines (Composite measure)
H-COMP-5-SN-P	Communication about medicines (Composite measure)
H-CLEAN-HSP-A-P	Cleanliness of hospital environment (Individual measure)
H-CLEAN-HSP-U-P	Cleanliness of hospital environment (Individual measure)
H-CLEAN-HSP-SN-P	Cleanliness of hospital environment (Individual measure)
H-QUIET-HSP-A-P	Quietness of hospital environment (Individual measure)
H-QUIET-HSP-U-P	Quietness of hospital environment (Individual measure)
H-QUIET-HSP-SN-P	Quietness of hospital environment (Individual measure)
H-COMP-6-Y-P	Discharge information (Composite measure)
H-COMP-6-N-P	Discharge information (Composite measure)
H-COMP-7-SA	Care Transition (Composite measure)
H-COMP-7-A	Care Transition (Composite measure)
H-COMP-7-D-SD	Care Transition (Composite measure)
H-HSP-RATING-9-10	Overall rating of hospital (Global measure)
H-HSP-RATING-7-8	Overall rating of hospital (Global measure)
H-HSP-RATING-0-6	Overall rating of hospital (Global measure)
H-RECMND-DY	Willingness to recommend the hospital (Global measure)
H-RECMND-PY	Willingness to recommend the hospital (Global measure)
H-RECMND-DN	Willingness to recommend the hospital (Global measure)

Appendix 3

2012 AHA ANNUAL SURVEY OF HOSPITALS

SURVEY QUESTIONNAIRE

The AHA Hospital Database, compiled from the AHA Annual Survey of hospitals, is an invaluable reference for hospital market research and industry analysis. The survey question answers—with more than 1,000 data fields—can be used to identify, analyze, and compare trends among 6,500 U.S. hospitals.

The answers can facilitate sales, planning and marketing activities and analysis. For example, consider current and future products/services when reviewing the survey questions:

- Where are the opportunities for new or current sales? Where are they not?
- What are the relationships between individual hospitals and their networks, systems, affiliations, etc.?
- What type of facilities and services do hospitals offer and what could it mean to your sales efforts?
- How can your sales/marketing teams use individual hospital managed care data?
- What data on physician and nurse arrangements and staffing are useful?
- What questions can help you define or evaluate new service lines?
- What answers to questions could be integrated with data from your organization for custom reporting and analysis?

2012 AHA Annual Survey of Hospitals

BACKGROUND

The survey is produced by the American Hospital Association with input from state health care agencies, and other industry organizations. It yields the most credible hospital data available—since 1946 it has been relied on by government agencies, and others. Input from state and local associations, Medicare and Medicaid centers, national organizations and governmental bodies are used to help identify non-registered hospitals and supplement survey responses. When data are missing, estimates are generated from the previous year's responses, and from comparisons to hospitals of similar size and orientation. Responses are aggregated by hospital type, size and geographic area, and answers are compared to those previously reported. If inconsistencies with historic trends are noted, the hospital is contacted for data validation or clarification. Historical data sets from the past five years are available online. Data sets back to 1980 are available upon request.

METHODOLOGY

The 2012 survey was sent to 6,500 U.S. hospitals, including non-AHA-member hospitals. Surveys were addressed to the hospital CEO.

AHA DataViewer Basic Hospital Database Download and Data Licensing

To purchase and download the 2012 AHA Basic Hospital database, please visit the "Subscriptions" page on **AHAdataviewer.com**. For information on importing survey data into corporate or network applications or for multiuser subscriptions, please contact us via phone or e-mail.

AHA DATA VIEWER
ahadataviewer.com

American Hospital Association
HEALTH FORUM®
MEDIA | EDUCATION | DATA

AHAdatainfo@healthforum.com
866-375-3633

2012 AHA ANNUAL SURVEY OF HOSPITALS

SURVEY QUESTIONNAIRE

A. REPORTING PERIOD (please refer to the instructions and definitions at the end of this questionnaire)

Report data for a full 12-month period, preferably your last completed fiscal year (365 days). (Be consistent in using the same reporting period for responses throughout various sections of this survey.)

1. Reporting Period used (beginning and ending date) ..... __ __ / __ __ / __ __ __ __ to __ __ / __ __ / __ __ __ __
   Month Day Year Month Day Year

2. a. Were you in operation 12 full months at the end of your reporting period?.... YES ☐ NO ☐
   b. Number of days open during reporting period _____

3. Indicate the beginning of your current fiscal year ..... __ __ / __ __ / __ __ __ __
   Month Day Year

B. ORGANIZATIONAL STRUCTURE

1. CONTROL

   Indicate the type of organization that is responsible for establishing policy for overall operation of your hospital. CHECK ONLY ONE:

   Government, nonfederal
   - ☐ 12 State
   - ☐ 13 County
   - ☐ 14 City
   - ☐ 15 City-County
   - ☐ 16 Hospital district or authority

   Nongovernment, not-for profit (NFP)
   - ☐ 21 Church-operated
   - ☐ 23 Other not-for-profit (including NFP Corporation)

   Investor-owned, for-profit
   - ☐ 31 Individual
   - ☐ 32 Partnership
   - ☐ 33 Corporation

   Government, federal
   - ☐ 41 Air Force
   - ☐ 42 Army
   - ☐ 43 Navy
   - ☐ 44 Public Health Service
   - ☐ 45 Veterans' Affairs
   - ☐ 46 Federal other than 41-45 or 47-48
   - ☐ 47 PHS Indian Service
   - ☐ 48 Department of Justice

2. SERVICE

   Indicate the ONE category that BEST describes your hospital or the type of service it provides to the MAJORITY of patients:
   - ☐ 10 General medical and surgical
   - ☐ 11 Hospital unit of an institution (prison hospital, college infirmary)
   - ☐ 12 Hospital unit within an institution for the mentally retarded
   - ☐ 13 Surgical
   - ☐ 22 Psychiatric
   - ☐ 33 Tuberculosis and other respiratory diseases
   - ☐ 41 Cancer
   - ☐ 42 Heart
   - ☐ 44 Obstetrics and gynecology
   - ☐ 45 Eye, ear, nose, and throat
   - ☐ 46 Rehabilitation
   - ☐ 47 Orthopedic
   - ☐ 48 Chronic disease
   - ☐ 62 Institution for the mentally retarded
   - ☐ 80 Acute long-term care hospital
   - ☐ 82 Alcoholism and other chemical dependency
   - ☐ 49 Other-specify treatment area:
     _____

3. OTHER
   a. Does your hospital restrict admissions primarily to children?..... YES ☐ NO ☐
   b. Does the hospital itself operate subsidiary corporations? ..... YES ☐ NO ☐
   c. Is the hospital contract managed? ..... YES ☐ NO ☐

   If yes, please provide the name, city, and state of the organization

   Name: _____ City: _____ State: _____

B. ORGANIZATIONAL STRUCTURE CONTINUED

d. Is the hospital a participant in a network? . . . . . YES ☐ NO ☐

If yes, please provide the name, city and state and telephone number of the network. If the hospital participates in more than one network, please provide the name, city, and state and telephone number of the network on page 15, under supplemental information.

Name: _____ City: _____ State: _____ Telephone_____

e. Is your hospital owned in whole or in part by physicians or a physician group? . YES NO

f. If you checked 80 Acute long-term care hospital (LTCH) in the Section B2 (Service), please indicate if you are a freestanding LTCH or a LTCH arranged within a general acute care hospital.

☐ Free standing LTCH ☐ LTCH arranged in a general acute care hospital

If you are arranged in a general acute care hospital, what is your host hospital's name?

Name:_____ City:_____ State:_____

4. NATIONAL PROVIDER IDENTIFIER (NPI)

a. Does your hospital have its National Provider Identifier (NPI) from the National Plan and Provider Enumeration System? . . . . . YES ☐ NO ☐

If yes, please report the ten digit NPI _ _ _ _ _ _ _ _ _ _

b. Does your hospital also have a Subpart NPI?. . . . . YES ☐ NO ☐

If yes, please report the Subpart NPI and provide the relevant taxonomy code to indicate the type of service provided. If you have multiple Subpart NPIs please report them all (in the supplemental section on page 15 at the end of this questionnaire, or on a separate sheet).

Subpart NPI 1 _ _ _ _ _ _ _ _ _ _ Taxonomy Code _ _

Subpart NPI 2 _ _ _ _ _ _ _ _ _ _ Taxonomy Code _ _

Subpart NPI 3 _ _ _ _ _ _ _ _ _ _ Taxonomy Code _ _

Taxonomy Codes

Ambulatory Health Care Facility 01
Medicare Defined Swing Bed Unit. 02
Psychiatric Unit 03
Rehabilitation Unit 04
Rehabilitation, Substance Use Disorder Unit . 05
Laboratory 06
Nursing and Custodial Care Facility. 07
Residential Treatment Facility. 08
Respite Care Facility. 09
Other 10

C. FACILITIES AND SERVICES

For each service or facility listed below, please check all the categories that describe how each item is provided as of the last day of the reporting period. Check all categories that apply for an item. Leave all categories blank for a facility or service that is not provided. Column 3 refers to the networks that were identified in section B, question 3d. If you check column (1) C1-19, please include the number of staffed beds. The sum of the beds reported in 1-19 should equal Section D(1b), beds set up and staffed on page 9.

	(1) Owned or provided by my hospital or its subsidiary	(2) Provided by my HealthSystem (in my local community)	(3) Provided by my network (in my local community)	(4) Provided through a formal contractual arrangement or joint venture with another providerthat is not in my system or network (in my local community)
1. General medical-surgical care. . . . . (# Beds: _____)	☐	☐	☐	☐
2. Pediatric medical-surgical care . . . . . (# Beds: _____)	☐	☐	☐	☐
3. Obstetrics [Level of unit (1-3): (___)] . . . . . (# Beds: _____)	☐	☐	☐	☐
4. Medical-surgical intensive care. . . . . (# Beds: _____)	☐	☐	☐	☐
5. Cardiac intensive care . . . . . (# Beds: _____)	☐	☐	☐	☐
6. Neonatal intensive care . . . . . (# Beds: _____)	☐	☐	☐	☐
7. Neonatal intermediate care . . . . . (# Beds: _____)	☐	☐	☐	☐
8. Pediatric intensive care. . . . . (# Beds: _____)	☐	☐	☐	☐
9. Burn care. . . . . (# Beds: _____)	☐	☐	☐	☐
10. Other special care _____ . . . . . (# Beds: _____)	☐	☐	☐	☐
11. Other intensive care_____. . . . (# Beds: _____)	☐	☐	☐	☐
12. Physical rehabilitation . . . . . (# Beds: _____)	☐	☐	☐	☐
13. Alcoholism-drug abuse or dependency care . . . . . (# Beds: _____)	☐	☐	☐	☐
14. Psychiatric care . . . . . (# Beds: _____)	☐	☐	☐	☐
15. Skilled nursing care . . . . . (# Beds: _____)	☐	☐	☐	☐
16. Intermediate nursing care . . . . . (# Beds: _____)	☐	☐	☐	☐
17. Acute long-term care . . . . . (# Beds: _____)	☐	☐	☐	☐
18. Other long-term care. . . . . (# Beds: _____)	☐	☐	☐	☐
19. Other care (specify):_____ . . . . (# Beds: _____)	☐	☐	☐	☐
20. Adult day care program	☐	☐	☐	☐
21. Airborne infection isolation room (# rooms _____).	☐	☐	☐	☐
22. Alcoholism-drug abuse or dependency outpatient services.	☐	☐	☐	☐
23. Alzheimer Center	☐	☐	☐	☐
24. Ambulance services	☐	☐	☐	☐
25. Ambulatory surgery center.	☐	☐	☐	☐
26. Arthritis treatment center	☐	☐	☐	☐
27. Assisted living	☐	☐	☐	☐
28. Auxiliary	☐	☐	☐	☐
29. Bariatric/weight control services	☐	☐	☐	☐
30. Birthing room/LDR room/LDRP room	☐	☐	☐	☐
31. Blood Donor Center	☐	☐	☐	☐
32. Breast cancer screening/mammograms.	☐	☐	☐	☐

C. FACILITIES AND SERVICES CONTINUED

	(1) Owned or provided by my hospital or its subsidiary	(2) Provided by my HealthSystem (in my local community)	(3) Provided by my network (in my local community)	(4) Provided through a formal contractual arrangement or joint venture with another providerthat is not in my system or network (in my local community)
33. Cardiology and cardiac surgery services				
a. Adult cardiology services	☐	☐	☐	☐
b. Pediatric cardiology services	☐	☐	☐	☐
c. Adult diagnostic catheterization	☐	☐	☐	☐
d. Pediatric diagnostic catheterization	☐	☐	☐	☐
e. Adult interventional cardiac catheterization	☐	☐	☐	☐
f. Pediatric interventional cardiac catheterization	☐	☐	☐	☐
g. Adult cardiac surgery	☐	☐	☐	☐
h. Pediatric cardiac surgery	☐	☐	☐	☐
i. Adult cardiac electrophysiology	☐	☐	☐	☐
j. Pediatric cardiac electrophysiology	☐	☐	☐	☐
k. Cardiac rehabilitation	☐	☐	☐	☐
34. Case management	☐	☐	☐	☐
35. Chaplaincy/pastoral care services	☐	☐	☐	☐
36. Chemotherapy	☐	☐	☐	☐
37. Children's wellness program	☐	☐	☐	☐
38. Chiropractic services	☐	☐	☐	☐
39. Community outreach	☐	☐	☐	☐
40. Complementary and alternative medicine services	☐	☐	☐	☐
41. Computer assisted orthopedic surgery (CAOS)	☐	☐	☐	☐
42. Crisis prevention	☐	☐	☐	☐
43. Dental services	☐	☐	☐	☐
44. Emergency services				
a. Emergency department	☐	☐	☐	☐
b. Pediatric emergency department	☐	☐	☐	☐
c. Satellite emergency department	☐	☐	☐	☐
d. If you checked column 1 (44c), is the department open 24 hours a day, 7 days a week?		☐ Yes	☐ No	
e. Trauma center (certified) [Level of unit (1-3) ____]	☐	☐	☐	☐
45. Enabling services	☐	☐	☐	☐
46. Endoscopic services				
a. Optical colonoscopy	☐	☐	☐	☐
b. Endoscopic ultrasound	☐	☐	☐	☐
c. Ablation of Barrett's esophagus	☐	☐	☐	☐
d. Esophageal impedance study	☐	☐	☐	☐
e. Endoscopic retrograde cholangiopancreatography (ERCP)	☐	☐	☐	☐
47. Enrollment (insurance) assistance services	☐	☐	☐	☐
48. Extracorporeal shock wave lithotripter (ESWL)	☐	☐	☐	☐
49. Fertility clinic	☐	☐	☐	☐
50. Fitness center	☐	☐	☐	☐
51. Freestanding outpatient care center	☐	☐	☐	☐
52. Geriatric services	☐	☐	☐	☐
53. Health fair	☐	☐	☐	☐

C. FACILITIES AND SERVICES CONTINUED

	(1) Owned or provided by my hospital or its subsidiary	(2) Provided by my HealthSystem (in my local community)	(3) Provided by my network (in my local community)	(4) Provided through a formal contractual arrangement or joint venture with another providerthat is not in my system or network (in my local community)
54. Community health education	☐	☐	☐	☐
55. Genetic testing/counseling	☐	☐	☐	☐
56. Health screenings	☐	☐	☐	☐
57. Health research	☐	☐	☐	☐
58. Hemodialysis	☐	☐	☐	☐
59. HIV/AIDS services	☐	☐	☐	☐
60. Home health services	☐	☐	☐	☐
61. Hospice program	☐	☐	☐	☐
62. Hospital-based outpatient care center services	☐	☐	☐	☐
63. Immunization program	☐	☐	☐	☐
64. Indigent care clinic	☐	☐	☐	☐
65. Linguistic/translation services	☐	☐	☐	☐
66. Meal on wheels	☐	☐	☐	☐
67. Mobile health services	☐	☐	☐	☐
68. Neurological services	☐	☐	☐	☐
69. Nutrition program	☐	☐	☐	☐
70. Occupational health services	☐	☐	☐	☐
71. Oncology services	☐	☐	☐	☐
72. Orthopedic services	☐	☐	☐	☐
73. Outpatient surgery	☐	☐	☐	☐
74. Pain management program	☐	☐	☐	☐
75. Palliative care program	☐	☐	☐	☐
76. Palliative care inpatient unit	☐	☐	☐	☐
77. Patient controlled analgesia (PCA)	☐	☐	☐	☐
78. Patient education center	☐	☐	☐	☐
79. Patient representative services	☐	☐	☐	☐
80. Physical rehabilitation services				
a. Assistive technology center	☐	☐	☐	☐
b. Electrodiagnostic services	☐	☐	☐	☐
c. Physical rehabilitation outpatient services	☐	☐	☐	☐
d. Prosthetic and orthotic services	☐	☐	☐	☐
e. Robot-assisted walking therapy	☐	☐	☐	☐
f. Simulated rehabilitation environment	☐	☐	☐	☐
81. Primary care department	☐	☐	☐	☐
82. Psychiatric services				
a. Psychiatric child-adolescent services	☐	☐	☐	☐
b. Psychiatric consultation-liaison services	☐	☐	☐	☐
c. Psychiatric education services	☐	☐	☐	☐
d. Psychiatric emergency services	☐	☐	☐	☐
e. Psychiatric geriatric services	☐	☐	☐	☐
f. Psychiatric outpatient services	☐	☐	☐	☐
g. Psychiatric partial hospitalization services	☐	☐	☐	☐
h. Psychiatric residential treatment	☐	☐	☐	☐

C. FACILITIES AND SERVICES CONTINUED

	(1) Owned or provided by my hospital or its subsidiary	(2) Provided by my HealthSystem (in my local community)	(3) Provided by my network (in my local community)	(4) Provided through a formal contractual arrangement or joint venture with another providerthat is not in my system or network (in my local community)
83. Radiology, diagnostic				
a. CT Scanner	☐	☐	☐	☐
b. Diagnostic radioisotope facility	☐	☐	☐	☐
c. Electron beam computed tomography (EBCT)	☐	☐	☐	☐
d. Full-field digital mammography (FFDM)	☐	☐	☐	☐
e. Magnetic resonance imaging (MRI)	☐	☐	☐	☐
f. Intraoperative magnetic resonance imaging	☐	☐	☐	☐
g. Magnetoencephalography (MEG)	☐	☐	☐	☐
h. Multi-slice spiral computed tomography (<64+ slice CT)	☐	☐	☐	☐
i. Multi-slice spiral computed tomography (64+ slice CT)	☐	☐	☐	☐
j. Positron emission tomography (PET)	☐	☐	☐	☐
k. Positron emission tomography/CT (PET/CT)	☐	☐	☐	☐
l. Single photon emission computerized tomography (SPECT)	☐	☐	☐	☐
m. Ultrasound	☐	☐	☐	☐
84. Radiology, therapeutic				
a. Image-guided radiation therapy (IGRT)	☐	☐	☐	☐
b. Intensity-modulated radiation therapy (IMRT)	☐	☐	☐	☐
c. Proton beam therapy	☐	☐	☐	☐
d. Shaped beam radiation system	☐	☐	☐	☐
e. Stereotactic radiosurgery	☐	☐	☐	☐
85. Retirement housing	☐	☐	☐	☐
86. Robotic surgery	☐	☐	☐	☐
87. Rural health clinic	☐	☐	☐	☐
88. Sleep center	☐	☐	☐	☐
89. Social work services	☐	☐	☐	☐
90. Sports medicine	☐	☐	☐	☐
91. Support groups	☐	☐	☐	☐
92. Swing bed services	☐	☐	☐	☐
93. Teen outreach services	☐	☐	☐	☐
94. Tobacco treatment/cessation program	☐	☐	☐	☐
95. Transplant services				
a. Bone marrow	☐	☐	☐	☐
b. Heart	☐	☐	☐	☐
c. Kidney	☐	☐	☐	☐
d. Liver	☐	☐	☐	☐
e. Lung	☐	☐	☐	☐
f. Tissue	☐	☐	☐	☐
g. Other	☐	☐	☐	☐

C. FACILITIES AND SERVICES CONTINUED

		(1) Owned or provided by my hospital or its subsidiary	(2) Provided by my Health System (in my local community)	(3) Provided by my network (in my local community)	(4) Provided through a formal contractual arrangement or joint venture with another providerthat is not in my system or network (in my local community)
96.	Transportation to health services	☐	☐	☐	☐
97.	Urgent care center	☐	☐	☐	☐
98.	Virtual colonoscopy	☐	☐	☐	☐
99.	Volunteer services department	☐	☐	☐	☐
100.	Women's health center/services	☐	☐	☐	☐
101.	Wound management services	☐	☐	☐	☐

102a. In which of the following physician arrangements does your hospital or system/network participate? Column 3 refers to the networks that were identified in section B, question 3d. For hospital level physician arrangements that are reported in column 1, please report the number of physicians involved.

	(1) My Hospital		(2) My Health System	(3) My Health Network
a. Independent Practice Association (IPA)	☐	(# of physicians _____)	☐	☐
b. Group practice without walls	☐	(# of physicians _____)	☐	☐
c. Open Physician-Hospital Organization (PHO)	☐	(# of physicians _____)	☐	☐
d. Closed Physician-Hospital Organization (PHO)	☐	(# of physicians _____)	☐	☐
e. Management Service Organization (MSO)	☐	(# of physicians _____)	☐	☐
f. Integrated Salary Model	☐	(# of physicians _____)	☐	☐
g. Equity Model	☐	(# of physicians _____)	☐	☐
h. Foundation	☐	(# of physicians _____)	☐	☐
i. Other, please specify _____	☐	(# of physicians _____)	☐	☐

102b. Looking across all the relationships identified in question 102a, what is the total number of physicians (count each physician only once) that are engaged in an arrangement with your hospital that allows for joint contracting with payers or shared responsibility for financial risk or clinical performance between the hospital and physician (arrangement may be at the hospital, system or network level)? # of physicians _____

103a. Does your hospital participate in any joint venture arrangements with physicians or physician groups? YES ☐ NO ☐

103b. If your hospital participates in any joint ventures with physicians or physician groups, please indicate which types of services are involved in those joint ventures (Check all that apply)

a. ☐ Limited service hospital
b. ☐ Ambulatory surgical centers
c. ☐ Imaging centers
d. ☐ Other _____

103c. If you selected 'a. Limited Service Hospital', please tell us what type(s) of services are provided. (Check all that apply.)

a. ☐ Cardiac
b. ☐ Orthopedic
c. ☐ Surgical
d. ☐ Other _____

103d. Does your hospital participate in joint venture arrangements with organizations other than physician groups? YES ☐ NO ☐

104a. Has your hospital or health care system established an accountable care organization (ACO)? YES ☐ NO ☐

104b. If yes, please indicate the patient population that participates in the ACO. (Check all that apply):

a. ☐ Medicaid
b. ☐ Medicare
c. ☐ Privately insured
d. ☐ Other, please specify_____

C. FACILITIES AND SERVICES CONTINUED

105. Does your hospital have an established medical home program? . . . . . YES ☐ NO ☐

106. Does your hospital participate in a bundled payment program involving inpatient, physician, and/or post acute care services where the hospital receives a single payment from a payer for a package of services and then distributes payments to participating providers of care (such as a single fee for hospital and physician services for a specific procedure, e.g. hip replacement, CABG)? . . . . . YES ☐ NO ☐

107. Does your hospital, health system or health network have an equity interest in any of the following insurance products? (Check all that apply) Contractual relationships with HMOs and PPOs should not be reported here but in Question 108. Column 3 refers to the networks that were identified in section B, question 3d.

	(1) My Hospital	(2) My Health System	(3) My Health Network	(4) Joint Venture with Insurer
1. Health Maintenance Organization.	☐	☐	☐	☐
2. Preferred Provider Organization	☐	☐	☐	☐
3. Indemnity Fee for Service Plan	☐	☐	☐	☐

108. Does your hospital have a formal written contract that specifies the obligations of each party with:
   a. Health maintenance organization (HMO) . . . . . YES ☐ NO ☐ b. If YES, how many contracts? _____
   c. Preferred provider organization (PPO) . . . . . YES ☐ NO ☐ d. If YES, how many contracts? _____

109. What percentage of the hospital's net patient revenue is paid on a capitated basis?
   If the hospital does not participate in capitated arrangements, please enter "0") _____ %

110. What percentage of the hospital's net patient revenue is paid on a shared risk basis? _____ %

111. Does your hospital contract directly with employers or a coalition of employers to provide care on a capitated, predetermined, or shared risk basis? . . . . . YES ☐ NO ☐

112. If your hospital has arrangements to care for a specific group of enrollees in exchange for a capitated payment, how many lives are covered?
   _____

D. TOTAL FACILITY BEDS, UTILIZATION, FINANCES, AND STAFFING

Please report beds, utilization, financial, and staffing data for the 12-month period that is consistent with the period reported on page 1. Report financial data for reporting period only. Include within your operations all activities that are wholly owned by the hospital, including subsidiary corporations regardless of where the activity is physically located. Please do not include within your operations distinct and separate divisions that may be owned by your hospital's parent corporation. If final figures are not available, please estimate. Round to the nearest dollar. Report all personnel who were on the payroll and whose payroll expenses are reported in D3f. (Please refer to specific definitions on pages 23-26.)

Fill out column (2) if hospital owns and operates a nursing home type unit/facility. Column (1) should be the combined total of hospital plus nursing home unit/facility.	(1) Total Facility	(2) Nursing Home Unit/Facility
1. BEDS AND UTILIZATION		
a. Total licensed beds	_____	_____
b. Beds set up and staffed for use at the end of the reporting period	_____	_____
c. Bassinets set up and staffed for use at the end of the reporting period.	_____	
d. Births (exclude fetal deaths)	_____	
e. Admissions (exclude newborns, include neonatal & swing admissions).	_____	_____
f. Inpatient days (exclude newborns, include neonatal & swing days)	_____	_____
g. Emergency department visits	_____	
h. Total outpatient visits (include emergency department visits & outpatient surgeries) . . .	_____	
i. Inpatient surgical operations.	_____	
j. Number of operating rooms	_____	
k. Outpatient surgical operations	_____	

D. TOTAL FACILITY BEDS, UTILIZATION, FINANCES, AND STAFFING CONTINUED

Fill out column (2) if hospital owns and operates a nursing home type unit/facility.
Column (1) should be the combined total of hospital plus nursing home unit/facility.

	(1) Total Facility	(2) Nursing Home Unit/Facility
2. MEDICARE/MEDICAID UTILIZATION (exclude newborns, include neonatal & swing days and deaths)		
a1. Total Medicare (Title XVIII) inpatient discharges (including Medicare Managed Care)		
a2. How many Medicare inpatient discharges were Medicare Managed Care		
b1. Total Medicare (Title XVIII) inpatient days (including Medicare Managed Care)		
b2. How many Medicare inpatient days were Medicare Managed Care		
c1. Total Medicaid (Title XIX) inpatient discharges (including Medicaid Managed Care)		
c2. How many Medicaid inpatient discharges were Medicaid Managed Care		
d1. Total Medicaid (Title XIX) inpatient days (including Medicaid Managed Care)		
d2. How many Medicaid inpatient days were Medicaid Managed Care		
3. FINANCIAL		
*a. Net patient revenue	.00	.00
*b. Tax appropriations	.00	
*c. Other operating revenue	.00	
*d. Nonoperating revenue	.00	
***e. TOTAL REVENUE (add 3a thru 3d)**	.00	.00
f. Payroll expenses (only)	.00	.00
g. Employee benefits	.00	.00
h. Depreciation expense (for reporting period only)		.00
i. Interest expense	.00	
j. Supply expense	.00	
k. TOTAL EXPENSES (Payroll plus all non-payroll expenses, including bad debt)	.00	.00

l. Due to differing accounting standards in use, please indicate whether or not bad debt is included in:
Total Expenses YES ☐ NO ☐
Deductions from net Patient Revenue YES ☐ NO ☐

4. REVENUE BY TYPE	
a. Total gross inpatient revenue	.00
b. Total gross outpatient revenue	.00
c. Total gross patient revenue	.00

***5. UNCOMPENSATED CARE & PROVIDER TAXES**	
a. Bad debt expense	.00
b. Financial Assistance (includes Charity Care) (Revenue forgone at full-established rates. Include in gross revenue.)	.00

c. Is your bad debt reported here (5a) reported on the basis of full charges? YES ☐ NO ☐

d. Does your state have a provider Medicaid tax/assessment program? YES ☐ NO ☐

e. If yes, please report the total gross amount paid into the program .00

f. Due to differing accounting standards please indicate whether the provider tax/assessment amount is included in:
1. Total Expense YES ☐ NO ☐
2. Deductions from net Patient Revenue YES ☐ NO ☐

D. TOTAL FACILITY BEDS, UTILIZATION, FINANCES, AND STAFFING CONTINUED

***6. REVENUE BY PAYOR (report total facility gross and net figures)**

		(1) Gross	(2) Net
*a. GOVERNMENT	(1) Medicare:		
	a) Fee for service patient revenue	.00	.00
	b) Managed care revenue	.00	.00
	c) Total (a + b)	.00	.00
	(2) Medicaid:		
	a) Fee for service patient revenue	.00	.00
	b) Managed care revenue	.00	.00
	c) Medicaid Disproportionate Share Hospital Payments (DSH)		.00
	d) Medicaid supplemental payments: not including Medicaid Disproportionate Share Hospital Payments (DSH)		.00
	e) Total (a + b + c + d)	.00	.00
	(3) Other government:	.00	.00
*b. NONGOVERNMENT	(1) Self-pay	.00	.00
	(2) Third-party payors:		
	a) Managed care (includes HMO and PPO)	.00	.00
	b) Other third-party payors	.00	.00
	c) Total third-party payors (a + b)	.00	.00
	(3) All Other nongovernment:	.00	.00
*c. TOTAL (Total gross should equal 4c on page 9. Total net should equal 3a on page 9.)		.00	.00

Are the financial data on pages 10 and 11 from your audited financial statement? YES ☐ NO ☐

7. FIXED ASSETS

a. Property, plant and equipment at cost	.00
b. Accumulated depreciation	.00
c. Net property, plant and equipment (a-b)	.00
d. Total gross square feet of your physical plant used for or in support of your healthcare activities	

8. TOTAL CAPITAL EXPENSES

Include all expenses used to acquire assets, including buildings, remodeling projects, equipment, or property. .... .00

9. INFORMATION TECHNOLOGY

*a. IT operating expense	.00
*b. IT capital expense	.00
*c. Number of employed IT staff (in FTEs)	
*d. Number of outsourced IT staff (in FTEs)	

e. Does your hospital have an electronic health record (see definition)?

☐ Yes, fully implemented ☐ Yes, partially implemented ☐ No

For additional questions regarding use of an electronic health record, please respond to the 2012 AHA Annual Survey Information Technology Supplement sent under separate cover.

* These data will be treated as confidential and not released without written permission. AHA will however, share these data with your respective state hospital association and, if requested, with your appropriate metropolitan/regional association.

For members of the Catholic Health Association of the United States (CHA), AHA will also share these data with CHA unless there are objections expressed by checking this box. ☐

The state/metropolitan/regional association and CHA may not release these data without written permission from the hospital.

D. TOTAL FACILITY BEDS, UTILIZATION, FINANCES, AND STAFFING CONTINUED

11. STAFFING

Report full-time (35 hours or more) and part-time (less than 35 hours) personnel who were on the hospital/facility **payroll at the end of your reporting period**. Include members of religious orders for whom dollar equivalents were reported. Exclude private-duty nurses, volunteers, and all personnel whose salary is financed entirely by outside research grants. Exclude physicians and dentists who are paid on a fee basis. FTE is the total number of hours worked by all employees over the full (12 month) reporting period divided by the normal number of hours worked by a full-time employee for that same time period. For example, if your hospital considers a normal workweek for a full-time employee to be 40 hours, a total of 2,080 would be worked over a full year (52 weeks). If the total number of hours worked by all employees on the payroll is 208,000, then the number of Full-Time Equivalents (FTE) is 100 (employees). The FTE calculation for a specific occupational category such as registered nurses is exactly the same. The calculation for each occupational category should be based on the number of hours worked by staff employed in that specific category.

For each occupational category, please report the number of staff vacancies as of the last day of your reporting period. A vacancy is defined as abudgeted staff position which is unfilled as of the last day of the reporting period and for which the hospital is actively seeking either a full-time or part-time permanent replacement. Personnel who work in more than one area should be included only in the category of their primary responsibility and should be counted only once.

	(1) Full-Time (35 hr/wk or more) On Payroll	(2) Part-Time (Less than 35hr/ wk) On Payroll	(3) FTE	(4) Vacancies
a. Physicians				
b. Dentists				
c. Medical and dental residents/interns				
d. Other trainees				
e. Registered nurses				
f. Licensed practical (vocational) nurses				
g. Nursing assistive personnel				
h. Radiology technicians				
i. Laboratory technicians				
j. Pharmacists, licensed				
k. Pharmacy technicians				
l. Respiratory therapists				
m. All other personnel				
n. Total facility personnel (add 11a through 11m)				
(Total facility personnel should include hospital plus nursing home type unit/facility personnel reported in 11o and 11p.)				
o. Nursing home type unit/facility registered nurses				
p. Total nursing home type unit/facility personnel				

12. PRIVILEGED PHYSICIANS

Report the total number of physicians with privileges at your hospital by type of relationship with the hospital. The sum of the physicians reported in12a-12f should equal the total number of privileged physicians (12g) in the hospital.

	(1) Total Employed	(2) Total Individual Contract	(3) Total Group Contract	(4) Not Employed or Under Contract	(5) Total Privileged
a. Primary care (general practitioner, general internal medicine, family practice, general pediatrics, obstetrics/gynecology, geriatrics)					
b. Emergency medicine					
c. Hospitalist					
d. Intensivist					
e. Radiologist/pathologist/anesthesiologist					
f. Other specialist					
g. Total (add 12a-12f)					

D. TOTAL FACILITY BEDS, UTILIZATION, FINANCES, AND STAFFING CONTINUED

13. HOSPITALISTS

a. Do hospitalists provide care for patients in your hospital? . . . . . YES ☐ NO ☐ (if yes, please report in D.12c.)

b. If yes, please report the total number of full-time equivalents (FTE) hospitalists . . . . . FTE _____

14. INTENSIVISTS

a. Do intensivists provide care for patients in your hospital? (If no, please skip to 15.) . . YES ☐ NO ☐ (if yes, please report in D.12d.)

b. If yes, please report the total number of FTE intensivists and assign them to the following areas. Please indicate whether the intensive care area is closed to intensivists. (Meaning that only intensivists are authorized to care for ICU patients.)

	FTE	Closed to Internists
1. Medical-surgical intensive care	_____	☐
2. Cardiac intensive care	_____	☐
3. Neonatal intensive care	_____	☐
4. Pediatric intensive care	_____	☐
5. Other intensive care	_____	☐
6. Total (Should equal total in 12d)	_____	☐

15. ADVANCED PRACTICE REGISTERED NURSES

a. Do advanced practice nurses provide care for patients in your hospital? . . . . . YES ☐ NO ☐ (if no, please skip to 16.)

b. If yes, please report the number of full time, part time and FTE advanced practice nurses employed or contracted to provide care for patients in your hospital. Full-time _____ Part-time _____ FTE _____

b. If yes, please indicate the type of service the nurses provide (Please check all that apply).

☐ Primary care ☐ Anesthesia services (Certified registered nurse anesthetist) ☐ Emergency department care

☐ Other specialty care ☐ Patient education ☐ Case management ☐ Other

16. FOREIGN EDUCATED NURSES

a. Did your facility hire more foreign-educated nurses (including contract or agency nurses) to help fill RN vacancies in 2011 vs. 2010?

☐ More ☐ Less ☐ Same ☐ Did not hire foreign nurses

b. From which countries/continents are you recruiting foreign-educated nurses?

☐ Africa ☐ South Korea ☐ Canada ☐ Philippines ☐ China ☐ India ☐ Other

E. SUPPLEMENTAL INFORMATION

1. CARE COORDINATION

Please indicate activities that your organization is engaged in to coordinate care across settings and extent to which they are used.

	Not used at all	Used minimally	Used moderately	Used widely	Used hospital-wide
a. Use of predictive analytic tools to identify individual patients at high risk for poor outcomes or extraordinary resource use.	☐	☐	☐	☐	☐
b. Telephonic outreach to discharge patients within 72 hours of discharge.	☐	☐	☐	☐	☐

2. DIVERSITY, LANGUAGE AND LEADERSHIP

	YES	NO
a. Does your hospital gather information on a patient's race/ethnicity at any point during their stay?	☐	☐
b. Does your hospital gather information on a patient's primary language at any point during their stay?	☐	☐
c. Does your hospital or health system currently have or plan to develop, execute, or evaluate a diversity strategy or plan?	☐	☐
d. Does your hospital educate all clinical staff during orientation about how to address the unique cultural and linguistic factors affecting the care of diverse patients and communities?	☐	☐
e. Does your hospital require all employees to attend diversity training?	☐	☐
f. Does the hospital's strategic plan include goals for improving quality of care of culturally and linguistically diverse patient population?	☐	☐

3. OTHER

	YES	NO
a. Does your hospital provide services through one or more satellite facilities?	☐	☐
b. Does the hospital participate in a group purchasing arrangement?	☐	☐

If yes, please provide the name, city, and state of the group purchasing organization. If the hospital participates in more than one group purchasing organization, please provide the name, city, state and telephone number of the group purchasing organization(s) on page 15 (3i), under supplemental information

Name: _____ City: _____ State: _____

c. Does the hospital purchase medical/surgical supplies directly through a distributor?	☐	☐

If yes, please provide the name of the distributor.

Name: _____

d. If your hospital hired RNs during the reporting period, how many were new graduates from nursing schools? _____

e. Use this space to describe your community benefit activities as well as any partners you are currently working with on such activities. Also use this space or additional sheets if more space is required for comments or to elaborate on any information supplied on this survey. Refer to the response by page, section and item name.

_____

_____

_____

_____

_____

Does your hospital or health system have an Internet or Homepage address? YES ☐ NO ☐

If yes, please provide the address: http:// _____

Kristian Henderson, MPH

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Professional Experience

Johns Hopkins Medicine, Baltimore, MD March 2015 – Present

Administrator, Operations Support and Medical Affairs

Job Summary: Reports to Vice President of Medical Affairs and Chief Operating Officer. Responsible for acting as a liaison between the COO and the following departments: Medical Affairs, Nursing, Quality, Patient Safety, Patient Experience, and each clinical department.

- Spearheaded management adjustment budget process to plan for strategic and clinical initiatives
- Partnered with medical staff to restructure the student observer policy for non-medical students
- Restructured COO office cutting **$100k in expenses** and increasing efficiency
- Developed proposal for centralized procedure service to address sentinel events and insurance claims related to procedures.

Johns Hopkins Medicine, Baltimore, MD March 2012 – February 2015

Assistant Director, General Services

Job Summary: Reports to Vice President of General Services. Responsible for planning, organizing, and coordinating activities and operations of the following departments: food and nutrition services, EVS, patient transport, linen, and mail. With **1,000+ FTEs** and budget of **$37.2M**, **seven direct reports.**

- Spearheaded customer service training that improved **patient satisfaction** from the **76th percentile to the 84th** for room cleanliness and increased food service score from the **9th percentile to the 23rd**
- Led Gallup Employee Engagement action plan creation and implementation resulting in **score increase from 3.5 to 3.9**
- Renegotiated system-wide waste management contract which generated **$1.1M in annual savings**
- Restructured hospital's print management program producing **$2.5M in savings** and **30% reduction** in service calls
- Designed workforce development training model, which decreased overtime **from 11.2% to 4.8%** in 16 months. Best practice highlighted in **Becker's Hospital Review**
- Developed system-wide sustainability strategy. Reduced regulated medical waste from 35% to 14% in 4 years, increased recycling from 1% to 17% in 4 years, and generated savings **of $8.2M in 2 years**
- Partnered with the EVS and Infection Control to **improve room turnaround efficiency by 25%.** Improved **quality control inspection results by 37%**
- Developed process for unwanted furniture and surplus equipment. **Offset $250K** of new furniture expenses and donated furniture valued at $450K to local non-profits
- Introduced operational efficiency model for performance excellence modeled after the **Malcolm Baldrige healthcare criteria** and collaborated to establish departmental strategic deployment maps
- Partnered with the Department of Materials Management and ICU to utilize **Lean Six Sigma** performance improvement techniques to reduce supply stock-outs

Johns Hopkins University, Baltimore, MD November 2013 – Present

Gordis Teaching Fellow, The Krieger School of Arts and Sciences

Job Summary: Selected to serve as the primary instructor for "Leading Healthcare Organizations" to 19 Johns Hopkins University undergraduate students. Designed a case-based seminar course for students to learn leadership, management processes, organizational structures, and management issues faced by health care delivery systems

- Invited to teach the course three semesters due to students overall **quality rating of 4.97 out of 5**
- Developed course curriculum and structures, shaped the intellectual content, and developed a comprehensive syllabus including assessments, readings, and course learning objectives

Johns Hopkins Bloomberg School of Public Health, Baltimore, MD September 2012 – March 2014
Graduate Teaching Assistant, Introduction to Healthcare Quality and Patient Safety
Graduate Teaching Assistant, Managed Care and Health Insurance
Graduate Teaching Assistant, Fundamentals of Management for Health Care Organizations
Job Summary: Served as the graduate teaching assistant for three different courses at JHSPH. I was responsible for grading student papers, presentations, and case assignments; scheduling and maintaining regular office hours to meet with students; and preparing and proctoring examinations.

- Instrumental in the redesign of the syllabus in response to student feedback and assisted faculty members with instructional preparation, delivery and assessment.

Clearview Organizational Assessment, LLC, Baltimore, MD August 2012 – December 2014
Co-Founder
Job Summary: Clearview360 is a start-up company founded by faculty from the Johns Hopkins School of Public Health. I provided comprehensive growth strategies, product strategy, and delivered foundational analytics for all of the project's business development, product development, and marketing

- Analyzed **financial and market data to create a commercialization plan** for the Clearview360 grant application for the National Institutes of Health Small Business Innovation Research program
- Developed commercialization plan for **NIH SBIR grant which resulted in 920K** in grant funding
- Crafted application for National Committee for Quality Assurance CAHPS **Patient-Centered Medical Home** Survey program and was accepted into the certification program

Johns Hopkins Medicine, Baltimore, MD July 2010 – February 2012
Administrative Fellow
Job Summary: Selected as one of three administrative fellows to be part of a two-year rotation-based program guided by a steering committee comprised of key leaders throughout Johns Hopkins Medicine

- Analyzed the profitability of urgent care center and persuaded CEO to purchase, which produced **$1.2M in variable net margin** with an **internal rate of return of 19%**
- Implemented pilot of *Forms on Demand* IT system in the Neurosciences outpatient clinic; success of pilot resulted in system adoption by additional service lines
- Completed financial analysis for the Smoking Cessation and Complex Hernia business plan
- Worked **closely with surgeons** to create standardized patient intake form for Neurosurgery
- Implemented standardized process flow for patient registration for Department of Oncology by collaborating with physicians, schedulers, access services, and billing representatives

Compass Strategic Consulting, New Haven, CT April 2009 – May 2010
Project Analyst
Job Summary: Compass Strategic Consulting provides marketing and business development services to life science companies. I analyzed qualitative and quantitative data of biopharmaceutical agents and produced comprehensive reports.

- Assessing health plan formulary of four products in development for prostate cancer
- Developed knowledge of Medicare Part D, drug reimbursement policy, and formulary placement

Education

Doctor of Public Health, Johns Hopkins School of Public Health (Baltimore, MD) Expected 2016
Health Care Management and Leadership

Master's in Public Health, Yale School of Public Health (New Haven, CT) 2010
Health Policy and Administration

Bachelor of Arts, Yale University (New Haven, CT) 2009
History of Science, History of Medicine

Academic Awards and Honors

- Featured in Becker's Hospital Review 2014
- Johns Hopkins Hospital Vice President Award 2014
- NAHSE Florence Gaynor Scholarship Award 2012
- Institute for Diversity Health Management Award 2010
- Yale Accolade Leadership Award 2009
- National Ron Brown Scholar 2009
- Discover Card Tribute National Scholar 2009
- Toyota Community Scholar 2009

Publications and Presentations

- "Tools to Help Medical Homes Reduce Racial Disparity." Medical Home Summit, Philadelphia, PA, March 14, 2013
- "Caught in a Deadly Cycle**:** America's Distrust of Health Care Leading to Increased Health Disparities," *Yale Journal of Public Health,* Vol. 4.3 (2007)

Community Service

Board of Directors, United Way Baltimore City Partnership Board 2012 – Present
Member, Alpha Kappa Alpha Sorority, Incorporated 2007 – Present
Member, American College of Health Care Executives 2012 – Present
Board of Directors, Greater Homewood Community Corporation 2011 – 2014
Executive Leadership, American Heart Association Go Red Campaign 2012
Professional Development Chair, National Association of Health Services Executive 2013